THE FIFTY-NINTH YEAR.

Companion to the Almanac;

OR,

YEAR-BOOK

OF

GENERAL INFORMATION

FOR

1886.

PART I.

COLONIAL ENTERPRISE, THE CONDITION OF INDIA, METEOROLOGY, PALESTINE EXPLORATION, RECENT INVENTIONS, ENGLISH PASTIMES, HOUSING OF THE PEOPLE, THE COTTON INDUSTRY, REFORMED PARLIAMENT.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, ART EXHIBITIONS, SCIENCE, MUSIC, PHILANTHROPY, LEGISLATION, STATISTICS, CHRONICLE AND NECROLOGY OF 1884–85.

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GREATER BRITAIN: OUR COLONIES AND DEPENDENCIES.

THERE are few facts of greater significance in the recent history of England than the change of front, if one may use the term, adopted by the Mother country with regard to the Colonies and to India. Time was, and not so very long ago either, when the Colonies were but lightly regarded by some of our statesmen and politicians, and when our vast Indian Empire was treated as a burden on England rather than as a land over which our sway might prove a common source of benefit to rulers and to people. "In my opinion," said Cobden, "it is for the interest of both (England and Canada) that we should as speedily as possible sever the political thread by which we are as communities connected." He asserted, too, that under the *régime* of Free Trade, Canada was not a whit more ours than the United States; he termed the Colonies, with the Army, Navy, and the Established Church, "merely accessories to our aristocratic government," and thought it was time for John Bull to purge his house of such impurities. With regard to India, Mr. Cobden used similar language. It would be a happy day, he said, when England had not an acre of territory in Continental Asia. Mr. Bright spoke, not many years ago, in the same strain. India, he said, was not worth what it cost us, and our Colonies had sent us neither men

nor money. "From this time forth," said the "Times," addressing Canada (October 30, 1872), "look after your own business yourself. We are both now in a false position, and the time has arrived when we should be relieved from it. Take up your freedom; your days of apprenticeship are over." There can be little doubt that these opinions were shared by a considerable section of the community. They were strange opinions, but they were thoroughly sincere, and perceptibly influenced our colonial policy. Men were disposed to assert that we ought to be content with this little island as our world, and every difficulty that arose abroad encouraged in some minds this belief at home.

All this is now changed. The predictions or assertions of our political prophets have not been verified; our Colonies do send us money, and we all know how, with the noblest spirit of patriotism, they have also sent us men. The advantage of ruling 240 millions of subjects in India may be less evident with a military power like Russia hanging on our skirts, but that it is an advantage as well as a noble destiny is felt by all who take a comprehensive view of the subject. This at least will be denied by none, that our relations with the Colonies, and with the vast Eastern Dependency we undertake to govern, have a special claim at this time upon the attention of the public. That Lord Derby, the most cautious and unimpulsive of statesmen, felt this is evident from the remarkable speech in which he lately bade farewell to the Agents-General. In that speech the Colonies were recognised, not as having separate interests from England, but as a part of the parent country, and the more widely this view of them is received the better will it be both for parent and children. It is, indeed, impossible to exaggerate the importance of the policy that may be adopted to draw more closely together the different parts of the Empire.

It will be well in the first place to state as concisely as possible of what that Empire consists.

In itself, as we all know, England is comparatively a small country, with an area of about 130,000 square miles, and a population of about 30 millions. Across the seas, however, and in different quarters of the globe, our flag waves over an Empire such as Rome never dreamed of, and such as the world has never before seen. It has been said by Mr. Ransome, whose little volume on "Our Colonies and India"* is a model of clear writing

* "Our Colonies and India: How we got them, and why we keep them." By Cyril Ransome, M.A. Cassell and Co.

and judicious argument, that it would be possible to take an area equal to that of England and lay it down sixty-five times in our Colonial Possessions, or, in other words, that we have one England at home and sixty-five abroad.

"If," says the writer, "one looks at the map of Europe and Asia, one is at once struck by the enormous extent of the territories which are possessed by the Emperor of Russia. Yet if one includes British India in one's calculation, then the size of the dominions of the Queen scattered throughout the world exceeds that of Russia by about an eighth! That is one way of looking at it. Again, another place one thinks of as very large is the United States. The United States is slightly more than one-third of the size of the British Empire! No other European State comes anywhere near these dimensions. France, with all her possessions, is only the sixteenth part of this; Germany, which has practically no Colonial possessions, the fortieth."

The population of British India is over 240 millions, but the population of our British Colonies (about 11 millions) is insignificant when compared with their area. So rapid, however, has the increase been of late years, that it is calculated that in another century the British Colonies will contain a population of 100 millions! Two centuries have passed since the first Englishman set foot on the soil of Australia, and nearly one century since the first British Settlement was made at Port Jackson. In 1835 the entire European population of Australia and Tasmania was about 80,000, but of late years, and since the discovery of the gold fields, the population has rapidly increased, and it is now supposed to number about 2,500,000 (less than one to the square mile), while that of Canada reaches nearly 5 millions, and that of New Zealand, which, next to Canada, is perhaps the most hopeful of our Colonies, about 600,000. South Africa has little less than a million souls of English blood, and the 25 islands belonging to Great Britain in the West Indies have a population of nearly $1\frac{1}{4}$ millions.

Less important Colonies and Settlements need not be mentioned here, but it is worthy of note, and the statement is due to the President of the Statistical Society, that not only is the area of the British Colonies nearly 8 millions of square miles, that is to say, more "than three times as large as the combined area of the Colonies of all other countries, of the mother countries of these latter, and of the United Kingdom added;" but "there is this marked difference between the Colonies of England and

those of other countries, that while the whole of the Portuguese, Spanish, and Dutch Colonies, and almost all the French, are within the tropics in Africa, Asia, and Central America, three-fourths of the British are within the temperate zone."

Many years ago Southey wrote:—"I want English knowledge and the English language diffused to the east and west and south," and since that time every year has increased the probability that his wish will be realised. It is calculated that before the close of this century the "tongue that Shakespeare spake" will be the native and vernacular language of at least 150 millions of human beings.

That trade follows the flag is a familiar and indeed commonplace observation, the truth of which grows more evident year by year. If there were no longer a flag to follow, says Mr. Forster, trade would cease to exist in this country itself. If statistics can be credited, there can be no controversy on this point, and it may be well to select a few of the most important, quoted on authority not likely to be contradicted. Here, in the first place, are some figures taken from a speech by Mr. Forster.

"The trade which the inhabitants of Great Britain conduct throughout the world is about one-third of the total trade of the whole world. The annual trade of the British Dominions beyond the seas with the United Kingdom is, exports and imports, 190,000,000*l.*, and with other countries 170,000,000*l.*, a total of 360,000,000*l.*, or six times the value of the annual trade of the United Kingdom at the beginning of the century. You have heard a great deal about the depression of trade which has ruled throughout the United Kingdom, and I ask if it were not for the Colonies what would the depression be? The trade of the United Kingdom with foreign countries in 1872 was more than 248,000,000*l.*, and in 1882 it was 214,000,000*l.*, a decrease in 10 years of 34,000,000*l.* The trade of the United Kingdom with British Possessions, which in 1872 was 66,000,000*l.*, had increased in 1882 to 92,000,000*l.* We should never have had these figures if the Colonies had been separated from the mother country. We are also largely dependent for the food of the country upon our Colonies, and we cannot help the fact. . . . The increase in the amount of wheat imported into the country in 1882 from India, North America, and from Australasia against that in 1872 was 8,000,000 cwt. from India, 1,000,000 cwt. from North America, and 2,000,000 cwt. from Australasia. The total trade of imports and exports of the United Kingdom with the world

outside British Possessions had increased from 1854 to 1882 more than 77 per cent., but the total trade, import and export, of the United Kingdom with British Possessions had increased more than 170 per cent."

To these significant statistics may be added a few others. Sir Rawson W. Rawson, in his inaugural address delivered last year as President of the Statistical Society, observed that the total trade of the United Kingdom is a fraction greater than that of all the other European countries possessing Colonies, and that the total trade of England with her Colonies exceeds fivefold that of all the other countries with their own Colonies. "Although," he said, "the system of Free Trade opens the markets of the whole world to all our Colonies, nearly one-half of their trade, amounting to 199,000,000*l.* a year, is carried on with the Mother country, notwithstanding all the influences of distance, convenience, suitableness of products, and competition of commercial rivals operating to reduce it." And the conclusion to which the President arrives, after presenting an elaborate array of figures, is that Britain has become great, and still maintains her greatness in no small degree, by the possession of her Colonies, and that, "subject to those changes which time may bring about and a *consensus* of interests and desires may dictate, the fixed unwavering policy of our rulers should be that England and her Colonies are one and indivisible."

In an article on "England and her Colonies" in the "Quarterly Review" (April, 1885), the figures given by the writer in another form are equally hopeful. "So far as we can estimate from the returns," he says, "the United States now take from us goods to the value of about 8*s.* 6*d.* per head of their population; whereas the proportion taken by Australia is represented by 8*l.* 18*s.* per head; by the Cape 4*l.* 10*s.*; by Canada 2*l.* 2*s.* In 1873, the Australian Colonies took from us goods to the value of 17,670,152*l.*, and this account increased to 24,216,452*l.* in 1883. India has increased her purchases by 10,539,000*l.* in the same period. This poor despised country buys far more of us even now than the United States or any other country that can be named. It actually stands at the head of the list of our customers." The "Quarterly Review" adds that, as the Bombay Chamber of Commerce once boasted, India alone could supply England with all the wheat she needs. The value of the amount now exported has increased from 167,690*l.* in 1873 to 6,088,814*l.* in 1883.

At a banquet held in London in 1859, the late Lord Lytton uttered these words when speaking of the Australian Colonies: "It may happen that the time will arrive when the other Great Powers of the world will rise up against the venerable parent of so many noble children. If that period should ever arrive, I believe the Colonies will not be unmindful of the tie which binds them to the mother country. I believe their vessels will come thick and fast across the ocean to her assistance, and that voices will be heard universally among them, saying in effect that while Australia lasts England shall not perish."

How close the tie is between those noble Colonies and England has been proved in a manner not likely to be forgotten, and there can be no doubt whatever that in the present temper of our colonists all the world over the love of the old country is strong enough, should the need unhappily occur, to verify Lord Lytton's prediction. Every day is giving us indications of this affection for the great mother of the race, or, if the reader prefer a colder term, of the interests that bind together parent and children. It was the fashion to say at one time that the Colonies as they grew older would separate themselves from the Empire, that already they were willing to leave us, and that Canada especially would naturally join the Federation of the United States. This was repeated so often that people began to believe it to be true, but no responsible persons say this now, neither would they be believed if they did. On the contrary, we find the Canadian Prime Minister declaring last year at Montreal, "We want no independence in this country except the independence we have at this moment. . . . We may govern ourselves as we please; we may misgovern ourselves as we please. If we are attacked, if our shores are assailed, the mighty powers of England by land and sea are used in our defence;" and Sir Charles Tupper, the Canadian High Commissioner, speaking, if that be possible, still more emphatically, says: "I regard the proposal for independence as the most fatal delusion—so far as Canada is concerned—that could be presented for our consideration. . . . I am not speaking mere sentiment; but I know after spending 29 years of my life consecutively in the Parliament of my own country—and I am proud to be able to say it—that no man would stand the slightest chance of securing election in any one of the Canadian constituencies—from Prince Edward Island to British Columbia—were he to advocate the disintegration of the Empire."

How is this disintegration to be avoided? What action shall England take and what action shall the Colonies take to prevent such a catastrophe? These are questions asked by many voices at home and by the Greater Britain across the seas. The solution of the problem is not yet ripe, and at this we need not wonder. A few years ago, as we have more than once observed, men with greater influence than far-sightedness either ignored the subject altogether or protested against any action by which the union of England with her Colonies might be strengthened. The neglect of former years increases the difficulty now. A question of the first importance in statesmanship was overlooked when the Colonies were young; now that they have attained to manhood it is forced upon us and must be grappled with.

Perhaps the wisest and most comprehensive view of the relation that should subsist between the parent state and her children has been taken by Professor Seeley in his lectures on "The Expansion of England," a title which explains the purport of the argument. He points out that there is an ambiguity about the word "Colonial," and about the word "Empire." Our Colonies do not resemble the Colonies of Greece and Rome, and our Empire "does not consist of a congeries of nations held together by force, but in the main of one nation, as much as if it were no Empire, but an ordinary State." Our Colonies, therefore, should be regarded as a simple extension of the mother country, a view all the more practicable now that steam has bridged over the distance that divided them from us. When we think of England, then, it is not as a small country, but as one of almost boundless extent, in which there is ample space and verge enough for Englishmen, so that "if there is pauperism in Wiltshire and Dorsetshire this is but complementary to unowned wealth in Australia; on the one side there are men without property, on the other there is property waiting for men." Yet we persist in thinking of a Colony not as part of our State but as a possession belonging to it. "If Greater Britain in the full sense of the phrase really existed, Canada and Australia would be to us as Kent and Cornwall." The man, then, who leaves his home in Sussex or Devonshire for Manitoba or Sydney, for Dunedin or Brisbane, does but leave one part of Great Britain for another, where he lives under the same flag, is protected by the same laws, has the same religion, the same language, the same literature, and can indulge to his heart's content in the

brusque independence which characterises John Bull at home. The close union that ought to bind England and her Colonies, and which in fact is bringing them nearer to each other day by day, was ardently desired years ago by Judge Haliburton, better known as Sam Slick, who took precisely the same view then which Mr. Seeley takes now. He complained that the colonists had no nationality, no place, no station, no rank, and observed: "The organisation is wrong. They are two people, not one. It shouldn't be England and her Colonies, but they should be integral parts of one great whole, all *counties* of Great Britain."

To bring about this happy result is a work for the highest statesmanship. There was a time when the Colonies were a great expense to the parent State—we had at one time 10,000 men of the Imperial army fighting with the Maories—but now they depend on their own resources, looking for protection to the Navy of England in the event of being attacked by a foreign foe. How much the Navy is dependent on the friendly harbours and coasting stations of the Colonies need not be said. With the largest shipping interest in the world, with merchant vessels traversing every sea, dependent moreover as England is in large measure on foreign supplies for her daily bread, the Navy is at once our chief security from invasion and the guardian of our commerce. It is a cheap defence, and would be cheap at treble the cost. In the event of war, the Colonies can be of service to us as we shall be to them. The help will be mutual. England gives them the protection of her flag, and, on the other hand, "from Halifax to Melbourne numerous ports would be open to English fleets and closed to those of an enemy." Comparatively defenceless as separate States, as part of England they are strong, not in material strength only but in that moral power with which a free nation enriches and elevates her children. One hundred years ago, when our colonists were placed under the most foolish restrictions with regard to trade, Edmund Burke, the greatest political philosopher of whom this country can boast, after saying in Parliament that our hold on the Colonies is in the close affection which grows from common names, from kindred blood, from similar privileges and equal protection, added:—"These are ties which though light as air are strong as links of iron. Let the Colonies always keep the idea of their civil rights associated with your Government; they will cling and grapple to you, and no force under heaven will be of power to

tear them from their allegiance." We have lost much in not attending earlier to these wise words. Happily we are fully alive to their truth now, and both in the old home and in the new homes a strong effort is being made to give effect to the principles suggested by words like these.

It is proposed to make the union of Colonies and parent State firmer by confederation; a hopeful scheme, perhaps, but one too vague at present to admit of a decided judgment. It will suffice to state succinctly some of the suggestions that have been made on the subject. In July and November, 1884, conferences were held in London under the presidency of Mr. Forster, which led to the formation of an Imperial Federation League. Its principal object is to call attention to the necessity of drawing closer the ties which unite the Mother country and the Colonies, and, in order to influence public opinion, branches of the League have been formed at home and abroad, two of the most important being in the Cape Colony and at Montreal. "Let us only keep in mind," said Mr. Forster, "what we want, namely, an organisation for common defence and an official acknowledgment of the rights of the Colonies to have a voice in the determination of foreign policy, especially when such policy directly affects their feelings or interests." The League has not as yet officially proposed any definite plan for the Federation of the Empire, but various schemes have been propounded by private persons. A Supreme House or Houses of Parliament for the management of Imperial affairs, in which the colonists shall be represented, is one of the most prominent suggestions made. Mr. Frederick Young has been long known as an advocate of Federation, and in a paper read at Amsterdam in the autumn of 1883 he says:— "Taking as a basis the present position and relation of England and her Colonies (which are subject to future modification according to circumstances), it has been proposed that there should be an Imperial Senate consisting of 300 members: 185 for England, 25 for Scotland, 40 for Ireland, 50 for the Colonies. The distribution, for the present at least, would be as follows:— 20 for the Dominion of Canada and Newfoundland, 15 for Australia, 5 for New Zealand, 5 for the Cape Settlements, 5 for the West Indies. The Ministry of the day would be drawn from the members of the Imperial Senate and the House of Peers, and these ministers, as at present, would be the immediate and responsible advisers of the Crown. The Senate would sit in London, and its term of duration would be five years. Here is

an admirable suggestion as the nucleus for the construction of an Imperial Parliament."

According to this arrangement, Imperial and local questions would be separated, and local Parliaments would have to be established for England, Scotland, and Ireland, the Colonies managing their domestic affairs precisely as they do at present.

Then there is the proposal to add a number of Colonial representatives to the existing Parliament, a plan fraught with obvious objections; there is the suggestion of the Marquis of Lorne, "that real power of being heard in Council might be given by granting to Agents-General the privileges of membership of the House of Commons without the power of voting," the Agents to abstain from all debate save on extraordinary occasions involving the Imperial issues of peace or war; and there is the moderate proposal that the Colonies should combine with England for purposes of Imperial defence. Other schemes are afloat which have been defended or opposed with the usual vigour of partisans. What the results will be no man knows or even ventures to prophesy. This only may be said with confidence, that the issue is a momentous one alike for ourselves and for the Colonies. "Modern English history," says Mr. Seeley, "breaks up into two grand problems, the problem of the Colonies and the problem of India," and he adds that the immense expansion of our race "has the effect of making English politics most bewilderingly difficult." Difficulties, however, are not impossibilities, and do but exist to be conquered. The interest awakened in the subject is a prominent sign of the times. Politicians and men of letters are alike concerned in its discussion; it has laid hold of the imagination and at the same time has forced itself on the attention of practical men. Possibly in the years to come the crisis which England seems to have reached in relation to her Colonies will be looked upon as the most significant event in the history of the century.

JOHN DENNIS.

OUR INDIAN EMPIRE.

THE recent progress of events in India, and more especially the prospect of possible troubles on the frontier of Afghanistan, a country which forms, as it were, one of the boundary walls of India, has of late drawn more than its customary share of attention to our Eastern Empire, and it will probably be felt that the present is a time when some information concerning the general statistics of the country, and the improvements which we are endeavouring to carry out in it, will be of interest.

We live at so great a distance from India that many of us are apt to forget its vast extent, and to think of it more as a mere triangular spot on the map than as a country having an area of more than a million and a quarter square miles, and more than 253,000,000 of inhabitants.

According to the last census, the population of India on the 17th February, 1881, was as follows : –

	Area in square miles.	Males.	Females.	Total.
Ajmere and Mhairwara	2,711	248,844	211,878	460,722
Berar	17,711	1,380,492	1,292,181	2,672,673
Coorg	1,583	100,439	77,863	178,302
Andaman Islands	880	12,640	1,988	14,628
Madras	139,900	15,278,233	15,590,271	30,868,504
Bombay, Sind, and Aden	124,134	8,520,453	7,968,821	16,489,274
Bengal	150,588	33,174,651	33,516,805	66,691,456
N.W. Provinces and Oudh	106,111	22,912,556	21,195,313	44,107,869
Punjab	106,632	10,210,053	8,640,384	18,850,437
Assam	46,341	2,503,703	2,377,723	4,881,426
British Burma	87,220	1,991,005	1,745,766	3,736,771
Central Provinces	84,445	4,959,435	4,879,356	9,881,791
Total British territory	368,256	101,292,504	97,498,349	198,790,853
,, Native States	509,284	28,684,722	26 465,734	55,150,456
Grand Total, India	1,377,540	129,977,226	123,964,083	253,941,309

These 253,000,000 of inhabitants are returned as belonging to the following religions, viz. :—

Hindus	187,937,438	Sikhs	1,853,426
Mahomedans	50.121,595	Jains	1,221,885
Aboriginals	6,426,511	Parsis	85,397
Buddhists	3,418,895	Jews	12,009
Christians	1,862,626	Others	952,039

Total 253,891,821, exclusive of the inhabitants of Aden and Port Blair.

Space does not admit of entering into the interesting details of how this vast population is divided as regards occupations, languages, education, &c., further than to state that by far the largest proportion consists of agriculturists, no fewer than 69,952,747 being returned under this head, while, if we add to the number the large class of village artisans and others who depend in great measure for their subsistence on the produce of small portions of land which they hold, we shall find that from 68 to 75 per cent. of the total population are more or less dependent for their subsistence on agriculture.

About five and a half millions of people are returned as "workers in cotton and flax," and nearly three millions as "attendants or domestic servants."

No less than 110 different languages are returned as being spoken in India; of these twenty are European, and the remainder either exclusively Indian or Oriental.

Under the heading of Education it is discouraging to note that no fewer than 217,171,284 persons are returned as not under instruction and unable to read or write.

The *foreign trade* of India by sea has, with the exception of temporary checks from famine, steadily increased for some years past; the total in 1883–84 was 154,596,094*l.*, and the following figures will show the increase from the two previous years :—

	1881-82.	1882-83.	1883-84.
Imports.	£	£	£
Merchandise	46,992,084	50,003,041	52,703,233
Treasure	11,322,781	13,453,157	12,877,963
Total imports	58,314,865	63,456,198	65,581,196
Exports.			
Merchandise	81,901,960	83,400,865	88,035,139
Treasure	1,097,387	980,859	979,759
Total exports	82,999,347	84,381,724	89,014,898
Total trade	141,314,212	147,837,922	154,596,094

About 56 per cent. of the total trade in 1883–84 was with the United Kingdom, and about 36 per cent. was divided between China, France, the Straits Settlements, Italy, Egypt, the United States, Belgium, Australia, Austria, and Ceylon.

The imports of India being mainly cotton and woollen piece

goods, metals, machinery, coal, and railway material, it is natural that the imports from the United Kingdom should be considerably in excess of those from other countries, and should tend to steadily increase.

As regards trade with foreign countries, there was a notable increase in the trade with Belgium, which steadily rose from a value of merely a few pounds in 1875 to a value of 2,889,342*l.* in 1883–84, and there is apparently every prospect of a further increase in the trade between the two countries now that the extensive harbour works at Antwerp have been completed.

There was also an increase of trade with France and with Germany, while that with Italy and Holland declined; it is, however, worth noting the first recorded export of Indian tea to Holland—11,670 lbs. having been exported to that country in consequence of the efforts made to introduce it at the Amsterdam Exhibition of 1883.

Of the total trade in 1883–84, 65·51 per cent. was exported or imported *viâ* the Suez Canal, and 34·49 per cent. by other routes; these figures show an increase over previous years in the percentage passing *viâ* the Suez Canal.

The total number of vessels which entered and cleared at Indian ports during the year 1883–84, was 11,662, representing a tonnage of more than 7,250,000 tons; of these vessels, 4,196, representing 5,500,000 tons, were British, and 2,601, representing 347,849 tons, were British Indian. In addition to these numbers, 426,868 steamers, sailing vessels, and native craft, representing 18,000,000 tons, are recorded as engaged in the Indian coasting trade. When it is remembered that besides these sea-going vessels thousands of native craft are employed on the rivers, some idea may be formed of the magnitude of the water-borne trade of India.

The *trade by land* with foreign countries is also of great importance; statistics with regard to the frontier trade must always be very imperfect, on account of the objection of suspicious people to giving a true account of their merchandise, the care with which they conceal from view any precious metals or precious stones in their possession, and the difficulty of controlling returns from remote frontier posts; but, exclusive of the import or export of treasure, Mr. O'Conor states that for the year 1883–4 the value of goods imported and exported across the frontiers was about 10,769,585*l.*

The countries with which this trade took place were those

situated on the western, north-western, northern, north-eastern, and eastern frontiers, from Biluchistan on the west to Siam on the east; the carrying is done by means of camels, mules, asses, ponies, sheep, goats, and buffaloes, and on the frontiers of Assam on the backs of the aboriginal savages who come down from the mountains to the annual fairs held in the plains near the borders. For the timber trade the logs are, wherever possible, floated down the rivers, and the trade with Upper Burma is mainly carried on by steamers of light draught.

The Kandahar State Railway has already taken seven-eighths of the total trade between Sindh and Biluchistan and Southern Afghanistan.

The total frontier trade of the year was 7·8 per cent. in excess of that of the previous year, and it would probably have still further increased were it not for the obstacles interposed by the state of affairs beyond the north-western frontier, where much of the district with which India used to trade has lately become Russian territory, since which time differential duties have been imposed on some goods from British India, while others have been wholly prohibited with the object of favouring Russian manufactures.

The principal articles of trade across the frontiers are horses, ponies, mules, and cattle, borax, caoutchouc, cotton-twist, and yarn, cotton piece goods, drugs, dyes, fruits, and nuts, grains, pulse, and oil-seeds, gums and resins, hides and skins, ghi, salt, silk, spices, jadestone, sugar, tea, tobacco, timber, wool, and woollen goods.

The following statement shows the gross amount of the revenue and expenditure in India and England for 1883-84, compared with the two preceding years :—

	1881–82.	1882–83.	1883–84.
	£	£	£
Gross revenue.	75,144,601	70,125,231	71,727,421
Expenditure in India	58,154,128	55,286,632	55,303,883
Ditto in England including railway interest and annuities.	14,407,746	14,131 966	15,036,042
Total expenditure . . .	72,561,874	69 418,598	70,339,925
Surplus	2,582 727	706,633	1,387,496
Deficiency	—	—	—

The principal heads of revenue and the proportions contributed

by the various provinces of India during the year 1883–84, were as under :—

	Land Revenue.	Opium.	Salt.	Stamps.	Excise.	Customs.
	£	£	£	£	£	£
India (General and Political)	96,819	—	1,522,242	29,788	30,414	—
Bengal . . .	3,791,872	7,046,344	1,829,798	1,257,692	1,042,539	355,991
Assam . . .	394,706	—	—	74,765	212,364	—
N.W. Provinces and Oudh	5,680,105	—	—	600,615	519,068	—
Punjab . . .	1,996,510	—	—	340,316	134,243	—
Central Provinces	619,298	—	—	131,073	235,643	—
British Burma .	1,308,065	—	20,709	89,390	224,202	530,862
Madras . . .	4,515,342	—	1,385,513	562,486	661,199	115,860
Bombay . . .	3,959,182	2,510,157	1,380,151	427,076	777,289	184,553
Total . .	22,361,899	9,556,501	6,138,413	3,513,201	3,836,961	1,187,266

The best and most trustworthy statistics as yet available concerning the *Agricultural Resources* of India are still very incomplete, and even such statistics as are obtainable cannot, in all cases, be relied on as accurate, for in their compilation the local authorities have to trust a good deal to information given by cultivators themselves and to casual observations. Maps and returns are in course of preparation which will give much more complete information than has hitherto been obtainable, and it is believed that the coming Colonial and Indian Exhibition to be held at South Kensington will make much of this information accessible to those interested.

For the whole of the province of Bengal, as well as for other large tracts, there is as yet no record of the area under cultivation, but it has been estimated that out of a total of rather more than 555,000,000 acres, representing the area of British India, about

306,000,000 acres are cultivated.
167,000,000 ,, are culturable.
and 82,000,000 ,, not susceptible of cultivation.

Total 555,000,000

Perhaps the most important factor to be studied in calculations of the agricultural resources of India, and of the best mode of developing them with a view to the prevention of famines, is *irrigation*.

In 1879, the Famine Commission estimated that the total irrigated area in British India and Mysore, including both the land watered by irrigation works and that watered by wells, was about 29,000,000 acres, or only a very small percentage of the total cultivated area. Year by year Government is extending the irrigated area, either by means of canal works in parts where the underground water is at some distance from the surface, or by assisting agriculturists to sink wells for themselves in parts where the water is not more than 50 feet from the surface. But it is evident that it must be a work of years before the means of artificial irrigation can be extended over the very large area of deficient or very uncertain rainfall.

The produce of the land may also be increased by reclaiming waste land and by establishing fuel and fodder reserves. Grazing land is much needed, for in many parts the cattle are nearly starved, and their manure, instead of going to enrich the soil, is burnt as fuel.

Efforts have from time to time been made to improve Indian agriculture by the introduction of new machines, implements, and methods, but, as was pointed out by Mr. Buck, Secretary to the Government of India, Revenue and Agricultural Department, in a lecture delivered before the Society of Arts in January, 1885, it is of little use to advocate the use of more effective machinery until the strength of the cattle employed is permanently enhanced.

Cotton must rank first in importance among the crops which enter into the exports from India. In 1883–84, 1,675,000 bales of cotton were exported; this amount was somewhat less in quantity, and its value was nearly 10 per cent. lower, than in the previous year, the decrease being caused by the reduction of price consequent on larger supplies from the United States and other places, and the depression of the cotton manufacturing industry in England.

The increase in importance of the *Wheat* crop, and the growth of the trade in that cereal, have been very remarkable; in 1879–80 about 2,250,000 cwt. of wheat were exported, and this amount steadily increased until in 1883–84 very nearly 21,000,000 cwt. were exported. The quality of the best Indian wheat is remarkably good, and the area suitable for wheat cultivation is very large, but the prices of wheat generally in the London markets have recently ranged so low that it has not been a very remunerative crop. Mr. O'Conor, in his "Statement of the

Trade of British India with British Possessions and Foreign Countries," has estimated that in order to leave a profit Indian wheat must sell in England at 39*s.* to 40*s.* a quarter, when prices in India and freights are both low; but during the year 1884, owing to the abundant harvests of the years 1883 and 1884, both in the United States and in Europe, the prices of wheat in England had only averaged 35*s.* 8*d.* a quarter—a price which was the lowest which had been known for nearly a century. The result of these low prices has been that the exports of wheat for the year 1884–85 fell to under 16,000,000 cwt. The total area under wheat in that year is estimated to have been 27,620,223 acres, and the total yield about 7,713,096 tons.

The idea has been entertained that the food supply of India is unduly diminished by the export of wheat, but statistics prove that in the North Western Provinces, the Central Provinces, and the Punjab, while the export of wheat has caused a large area to be brought under cultivation, the area under other food crops has not only not diminished, but on the contrary has actually increased.

Rice has always been one of the standard Indian crops; during 1883–84 there was a diminution in the amount exported, which was somewhat under 27,000,000 cwt., though the prices realised were somewhat higher than those paid in the previous year.

The area under *Tea* in India and the amount exported have steadily increased year by year; it is only 47 years ago, viz., in 1838, that the amount of tea imported from India into England was only 456 lbs., whereas Messrs. W. and J. Thomson state that in 1884–85 close on 61,500,000 lbs. were imported chiefly to this country.

The area under tea in 1883–84 was about 261,000 acres, the number of tea plantations nearly 3,000, and the capital employed in the tea industry is not far short of three millions sterling. In the same year, about 66,000,000 lbs. of tea are estimated to have been produced in all India, and of this amount about 60,000,000 lbs. were exported by sea, about 1,000,000 lbs. were taken by the Commissariat for the use of the troops, and 750,000 lbs. were exported across the frontier to Afghanistan and Yarkand; the remaining 4,250,000 lbs. were either retained in stock or consumed in India.

It is of interest to note that for the season 1884–85 the total

amount of tea imported into the United Kingdom was thus made up, viz. :—

Indian....	....	61,472,000 lbs.
Ceylon....	....	2,482,000 „
China and Java		142,476,000 „
	Total	206,430,000

and that the proportion of Indian and Ceylon teas used for home consumption in that season was about 49 per cent. of the whole consumption. There are evidences that improved modes of cultivating, and especially of curing, Indian tobacco are causing it to come into more general favour; besides the large quantity consumed in the country, about 18,500,000 lbs. of leaf tobacco, and 252,000 lbs. of cigars were exported in 1883–84.

The trade in *Sugar* has increased in a very notable way during the last few years, notwithstanding the excessively low prices which have ruled in the European markets. The exports of refined sugar rose from about 45,000 cwt. in 1879–80 to nearly 204,000 cwt. in 1883–84, while those of unrefined sugar rose from 279,000 cwt. in 1879–80 to 1,426,000 cwt. in 1883–84.

More than 17,000,000 cwt. of oil-seeds, mainly linseed, rape-seed, til, earth-nuts, and castor-seeds were exported in 1883–84 to the United Kingdom, France, the United States, Egypt, Belgium, and Holland.

It is satisfactory to note that the revenue from *Forests* steadily increases. In his preface to the Indian Catalogue for the Edinburgh Forestry Exhibition of 1884, Sir George Birdwood mentions that prior to 1848 the revenue derived from Indian forests was merely nominal, and that there was no forest conservancy; in 1882–83 the total revenue from forests was 938,228*l.*, and after payment of all expenses connected with conservancy works and establishment there was a net surplus of 370,910*l.*

The total area of forests entirely or partially under the management of the Forest Department, so far as returns are available, was, in 1882–83, 75,270 square miles, and the cost of the establishments necessary to administer these forests was 220,633*l.*

It has hitherto been the practice to train young forest officers principally in France and Germany, but it is now contemplated to make the Department more independent of foreign countries, and to start a Forest School in connection with the Cooper's Hill Engineering College. The most important timber grown

in India, from a commercial point of view, is teak ; in 1883–84 46,471 cubic tons of this timber, of a value of about 525,000*l.*, were exported. This is a smaller quantity than in previous years, but the value is higher, and this is caused by the increasing scarcity of large logs and by the growing demand for them.

Public Works, such as railways, roads, irrigation works, &c., promoted or assisted by Government, are of the greatest importance to the welfare of India, as giving increased facilities of communication, and as tending to increase agricultural production, and thereby to diminish the chances of famines. These works are divided into three general groups, viz. :—(1) Productive, which are estimated to yield interest on the outlay after a certain number of years ; (2) Protective, which are intended to protect the district where they are undertaken from famine; and (3) Provincial, which are generally productive, but are carried on on the financial responsibility of the Local Governments.

Of productive works, irrigation canals may be considered the most important. Of these there were in 1882–83, in

	Miles in operation.	Acres irrigated.
Bengal	2,571	372,866
North-West Provinces and Oudh	6,561	1,872,460
Punjab	2,329	727,858
Madras	6,875	1,926,570
Bombay and Sind	911	329,027
Total	19,247	5,228,781

In the same year the expenditure on Class 1, or productive works of all kinds, was 11,741,747*l.*, and the receipts were 12,224,100*l.* Of this amount 1,399,611*l.* were expended, and 1,325,110*l.* were received on account of provincial works. On protective irrigation works, 263,433*l.* were spent.

The total extent of *Railways* open for traffic in India on March 31st, 1885, was 12,004 miles. Of this length 6,906 miles were in the hands of companies, 4,434 miles were State lines, and 664 miles belonged to Native States.

On the same date there were, in addition, 3,555 miles of railways under construction, of which 963 miles were in the hands of companies, 2,125 miles were under construction by the State, and 467 miles were under construction by Native States.

The gross receipts during 1884 amounted to 16,066,225*l.*, and the working expenses to 8,156,157*l.* The aggregate tonnage

of goods amounted to close on 17,000,000 tons, and the number of passengers carried to over 73 millions.

These figures show a direct advance on previous years, and it should be remembered that this shows not only an expansion of trade and, therefore, an advance in the prosperity of the country, but that, moreover, every extension of the railway system, by affording further facilities for the transport of the produce of the land from the richer to the poorer districts, offers additional safeguards against the devastations caused by famines.

It is intended during the five years from 1884–85 to 1889–90 to spend on railways no less than 20,490,399*l.*, or over 4,000,000*l.* sterling per annum. Nearly thirty separate systems are projected, of which six are for purely protective purposes.

Great progress has been made with the Scinde–Pishin, better known as the Quetta or Candahar Railway. It was not until July, 1884, that sanction was obtained for the recommencement of the abandoned works, and the whole line has since been blocked out into sections, not only to Quetta but as far as Shebo, a point much further north on the direct route to Candahar. On each section a gang was set to work, and for 149 miles of the route immediately adjoining Sibi the rails were completely laid at the date of the last report, while bridges and tunnels on many other sections were well advanced. It is now considered that the whole line can be opened by August, 1886.

The *Mineral Resources* of India are one of her greatest, though as yet very imperfectly developed, sources of wealth. *Coal*, especially, has a great field before it in satisfying the demands of railways, owing to the growing scarcity of wood for fuel. In the year 1882 1,038,872 tons were raised from the Bengal mines, and 91,370 tons from the Central Provinces mines, and in Assam it is said that not less than 40,000,000 tons are easily procurable. The advantages of using Indian coal on the railways may be readily estimated when it is mentioned that the average values of these coals at the pits range from Rs. 3½ to Rs. 9 per ton, while those of English coal at Bombay, Madras, and Karachi range from Rs. 15 to Rs. 17 per ton, and the relative proportional value of Indian coal as railway fuel ranges from 70 to 80 per cent. of the value of English ; it may thus be seen that if it were not for the cost of transporting it to a distance from the pit's mouth, Indian coal would be much more largely used as railway

fuel than it is at present. The wealth of *Iron* in different parts of India is very large, but there is a difficulty in developing its manufacture by modern methods owing to the scarcity of fuel; there are in India only three possible centres where there are probabilities of the manufacture being developed on a large scale by the agency of English capital, viz., the Bengal Iron Works, the Jubbulpore Districts, and the Chanda coal and iron-fields. It has been estimated that these latter iron-fields could probably turn out as much as 260,000 tons of iron and steel annually.

A considerable expenditure has been incurred by a private company in the hopes of procuring *Mineral Oil* on a large scale in Burma, and works with the same object are being carried on in Assam, and in the Rawalpindi district of the Punjab.

There has been little news lately of the *Gold* fields in Southern India concerning which such brilliant prospects were held forth a few years ago; operations to develop the works are, however, still being carried on.

Salt is a most important mineral product, inasmuch as it is not only a necessary of life, but also forms a not inconsiderable item of revenue to the Indian Government. In the north-east of the Punjab there exist solid hills of rock salt which are quarried and used, but in other parts of India salt is procured by evaporation, either of sea-water or of inland salt-lake water. In 1883–84 the grand total of the revenue derived from customs and excise duties on salt, sales of Government salt, and miscellaneous receipts on account of salt was more than 6,000,000*l.* sterling.

In *Manufactures* it is interesting to note that the *Cotton industry* is steadily on the increase. At the end of the year 1883 there were in all India 74 mills engaged in the manufacture of cotton piece-goods, and these mills gave employment to about 62,000 operatives; the value of the goods turned out and exported to foreign countries during the year was about 2,853,170*l.*, showing an increase of about 76 per cent. during the five preceding years. Additional mills are being erected in Bombay and elsewhere in British territory, as well as in the dominions of the Nizám.

In *Jute goods*, although there has been a large increase in the number of gunny bags manufactured, yet there has been a decrease in their value owing to a reduction in the market value of bags; besides the very large number used locally, nearly 64 millions of bags were exported in 1883–84, and of this number more than 15 millions went to the United States,

almost the same number to Hong Kong, more than 11 millions to Australia, nearly 9 millions to the Straits, and more than 2 millions to the United Kingdom.

There has not been very much improvement in the trade in silk piece goods, but on the other hand there has been a very large increase in the trade in reeled silk as well as in that in waste silk and cocoons, the demand for the two latter classes in France and England being now very great, and likely to increase. The experiments conducted during the past few years in both countries, and especially those of Mr. Wardle, of Leek, have proved how eminently suitable for many purposes are the tusser and other wild silks of India, and what beautiful dyes they will take, while the printing in this country on tusser silk piece goods has introduced to the upholsterer and milliner a whole series of new and effective materials.

For the more ornamental manufactures of India there is an increasing demand in Europe, mainly the result of the numerous collections exhibited during recent years at International Exhibitions, and of the taste for domestic ornaments of an artistic character which has been inspired by such works as Sir G. Birdwood's "Industrial Arts of India;" but the quantity of such goods dealt in is not sufficiently large to make a very important item among the exports.

The "Times of India" recently drew attention to the growing prosperity of the people of India as indicated by the increasing consumption of several of the minor conveniences of personal and household use, such as umbrellas, shoes and boots, earthenware and porcelain, sheet glass, and brass utensils; as regards umbrellas it is stated that whereas Chinese paper umbrellas have hitherto been largely sold in India they are giving way before those of British cotton, while with respect to boots and shoes, not only is the consumption of those of foreign manufacture increasing, but the native shoemaking industry is also enlarging.

Public Health.—The health of the European Army in India in 1883–84 was very favourable, the daily sick in the whole force of over 55,000 men being 63, or 2 per 1,000 less than in the previous year, and the mortality 10·88 against 12·07 in the previous year. The health of the Madras and Bombay Armies was more favourable than that of Bengal, and both cholera and fever were less prevalent than in the previous year.

In the Native Army also the health was satisfactory; out of a total strength of nearly 115,000, the daily sick were 31 or 6 per

1,000 less than in the previous year, and the mortality was 11·76 against 12·24 in the previous year.

As regards the general population, considerable progress was made in the registration of vital statistics in 1883–84, but in Bengal not much progress was made in the registration of births. The area over which cholera extended was greater than in the previous year, but the number of deaths was less, the deaths from it in Bengal amounting to 1·36 per 1,000 or 1·39 per 1,000 lower than in the previous year; the registered deaths from all causes in all India being rather over 25 per 1,000.

There has been for some years a steady decrease in the *jail population* of India, and at the same time there has been a progressive improvement in the health of the prisoners as a whole; the range of sickness and mortality, however, in several jails—notably some of those in Bengal and the Central Provinces—still continues very high. On the whole, the health of the prisoners was better than in any year since 1877.

The area of *vaccination* is extended year by year, satisfactory progress being made and a progressive increase in the number of vaccinations being recorded.

A very large number of persons and of cattle are still yearly killed by *wild beasts and venomous snakes.* During 1883 no less than 22,905 persons and 47,478 cattle were so killed. During the same year 19,890 tigers, leopards, bears, wolves, hyenas, and other wild beasts, and 412,782 venomous snakes were destroyed, and 17,435*l.* were paid in rewards for their destruction.

During the year 1883 the total number of *criminal offences* reported was 1,140,472; for these offences 1,251,967 persons were brought to trial, of which number 583,865 were discharged or acquitted.

During the same year the total sanctioned strength of the *police force* of all India, excluding Ajmere, was 136,642 officers and men.

The extension of the *municipal system* has been continued, and during the year 1883–84 the total income of municipalities in British India, which five years earlier had been only 1,967,043*l.*, had risen to 2,811,584*l.* These municipal funds are derived from octroi, taxes, rents, fines, and grants in aid, and are expended mainly on such heads as Conservancy, Police, Registration, Lighting, Water Supply, Drainage, Education, Public Works and Roads.

In Bengal in consequence of the projected scheme of local

self-government, some progress was made in 1883 in transferring the management of *charitable dispensaries* to local bodies and private committees. At the close of the year 1883, there were 230 dispensaries at work in that province, and of this number 102 were managed by municipal bodies and 101 by special committees. The following table shows the number of dispensaries open in India in 1883, their total income from all sources, and the number of patients treated :—

	Number of Dispensaries.	Total income.	Number of Patients treated.
		£	
Bengal	230	45,175	938,221
Calcutta	6	43,170	259,718
Madras	287	80,354	1,696,809
Bombay	202	98,177	1,372,249
Punjab	191	44,607	1,598,256
North-West Provinces and Oudh	212	37,844	1,567,456
Central Provinces	82	11,671	611,541
Berar	41	10,527	195,364
Assam	29	5,632	77,560
British Burma	28	17,844	151,073
Total	1,308	395,001	8,468,247

There are *Medical Colleges* at Calcutta, Madras, and Bombay, and Medical Schools at Dacca, Bankipore, Cuttack, Poona, Ahmedabad, and Hyderabad. At the Madras Medical College several female students have passed their examinations with credit.

Attention continues to be paid to the improvement of the *sanitary condition* of large towns. In Calcutta the supply of water, both filtered and unfiltered, has been extended, and the sewerage system has been further developed so that the total mileage of sewers laid up to 31st March, 1883, was 150; considerable progress has also been made in the filling up of filthy ditches and foul tanks.

Progress in sanitary works is not confined to Calcutta alone; for, exclusive of that city, the municipal expenditure in Bengal on sanitary works during the year 1883–84 was 34½ per cent. of an income of about 332,876*l*.

In Madras also useful sanitary work was done in the construction and maintenance of roads and latrines, and in improvements in markets; extensive new drainage and water supply schemes are also being carried out. Special attention is being given throughout the Madras Presidency to the important works of cleansing and repairing the sources of water supply, drainage,

and conservancy. About 60,966*l.* was expended in Madras on sanitary works during the last nine months of 1883.

In Bombay a scheme of surface drainage has been initiated, from which important sanitary results are expected. In the whole Presidency the total income of municipalities, excluding that of the city of Bombay, was 271,000*l.* in 1883–84, and of this sum nearly 115,000*l.* were expended on conservancy arrangements.

In the Punjab during the year 1883 the total income of municipalities was 410,047*l.*, of which 124,183*l.* were spent on sanitary works. In Amritsur plans for a pure water supply were well advanced and good progress was made in a project for extra-mural drainage. Drainage works have been carried on in Simla and Lahore, and some progress has been made in various parts in the use of town sewage as manure.

The most important extension of *Post Office* work which has recently taken place is the introduction from the 1st of December, 1883, of a scheme for utilizing post offices for telegraph work. The scheme was successfully worked and extended during the following year.

From the 1st of July, 1883, an interchange of money-orders with France was established, and reply post-cards were introduced early in 1884. Postal notes were also introduced into India during the year 1883, but they have not, as yet, become very popular.

Post Office Savings Banks have only been established for a very few years in India, but they are a great success. During the year 1883–84 the amount deposited was 1,035,000*l.*, and the amount withdrawn was 582,500*l.*; the interest allowed amounted to 18,700*l.*, and at the end of the year there were 5,199 banks and sub-banks, of which 961 were opened in the course of the year. At the same date there were 84,848 depositors, and the average amount standing to the credit of each depositor was 330 rupees in the District Banks and 89 rupees in the Post-office Banks.

At the close of the year 1883–84 there were 5,879 post-offices open in India, of which 569—mainly village offices—were added in the course of the year. The total length of postal lines of communication was 63,536 miles, of which 10,631 were by railway, 3,580 by mail-cart, horse, and camel, 34,805 by runners and boats, and 14,520 by sea.

The total number of articles, exclusive of money-orders, conveyed by the Post-office during the official year, was more than

200 millions as against 184 millions in the previous year; of this number more than 38 millions were post-cards.

The operations of the *Indian Telegraph Department* show satisfactory progress, although the net financial results for the year 1883–84 were affected by abnormally heavy charges for the reconstruction of some of the older lines. The total working expenses for the year amounted to 371,633*l.*, and the earnings to 409,141*l.*

During the year 1,828,514 paid messages were tendered at Government telegraph offices; the total number of offices, including those belonging to licensed systems, open throughout the Empire to the public for the receipt and dispatch of messages, was at the close of the year, 1,731. Of these, 216 were post and telegraph offices, while all post-offices were constituted receiving offices for the despatch of messages to the nearest telegraph offices.

The length of line in operation was 23,437 miles, with 68,829 miles of wire, including cables. Of this length, 24,519 miles of wire were maintained for the use of railways, 104 miles for native states, and 857 miles for public and private lines. During the year, 2,825 miles of new wire were put up for railways, and 612 miles for connecting new branch offices with the main system.

Until recently, the charges for messages passing over the wires of different inland systems have been apportioned between the different administrations entitled to share in them; but under later Government orders each system now retains its own collections, and all inland paid messages are carried free beyond the limits of the administration in which they were received.

In 1882 a Commission, of which Dr. W. W. Hunter was President, was appointed to inquire into the condition of *education* in India. The report of the Commission has been published, and contains a review of the educational system of India—excluding British Burma and Ajmere—as it now exists, with recommendations for the future.

The various provincial Departments of Education were constituted in 1855, and the statistics for the year 1855–56 show that the number of educational institutions, both departmental, aided and inspected, and extra-departmental or unaided by Government, was then 50,998, with 923,780 pupils; in 1881–82 the total number of institutions had risen to 114,109, and the

number of pupils of the various races or creeds to 2,643,978. Female education has made great progress in recent years; in 1881-82 there were 2,697 special schools for girls, with 127,066 pupils. Most of the progress made in female education, as well as a large proportion of that made in general education, is due to missionary efforts; no collective information concerning the labours of the Roman Catholic missions is available, but the missions of the Church of England and of the Protestant Nonconformists had in 1881–82 no less than 4,736 institutions with 187,652 pupils in India, excluding Burma.

According to the Educational Department Statistics the total expenditure on education in all India for the year 1882–83 was 2,105,649*l.*, and the average cost per pupil was 13*s.* 4*d.*

Did space permit, it would be easy to prolong this very brief statement of facts and figures far beyond the limits of the present pages. It is, indeed, only possible here to record a sufficient number of facts to induce those who take an interest in the subject to search further into the voluminous and interesting official records* which are now published annually by the various departments concerned in the administration of our Indian Empire. It is unfortunate that, owing to the early date at which it is necessary for this work to go to press, it has been impossible in every case to consult these records up to the latest period; but there is every prospect that the forthcoming Colonial and Indian Exhibition, which it is intended to open at South Kensington in May, will give the public many facilities for obtaining information not only on statistical, but on all other points of interest connected both with our Colonies and with our Indian Empire.

J. R. Royle.

* Amongst many others may be mentioned:—

Statement exhibiting the Moral and Material Progress and Condition of India during the year 1882–83. By Mr. J. S. Cotton.

Statement of the Trade of British India for the years 1879–80 to 1883–84. By Mr. J. E. O'Conor.

Statistical Abstract relating to British India. Nineteenth Number. By Mr. C. C. Prinsep.

Report on Sanitary Measures in India. By Mr. W. T. Ronson.

METEORIC STREAMS.

The etymological sense of the word meteor is "something high or lifted up;" hence meteorology meant, first the study of remarkable appearances in the upper atmosphere, and afterwards was taken to include the constitution and changes of the atmosphere itself. But meteors, in a scientific sense, became restricted to those luminous objects which from time to time are seen to flit across the sky, and which are now understood to be not produced in the earth's atmosphere, but to belong to outer space so as to be strictly astronomical phenomena. That such objects are seen more frequently at certain times in the year than at others could not but be noticed in very early times. But that vast shoals actually move in elongated streams round the central body of our system, and are encountered by the earth at certain seasons, producing meteoric showers, as they are called, is a discovery of very recent date. Still more recently it has been recognized that the orbits in which several of the most remarkable of these shoals move round the sun are identical with those of certain comets, thus indicating some connection between the meteors and this latter class of bodies, respecting which much still remains to be learnt.

Before entering on the subject of meteoric streams, a few words may be acceptable with regard to those meteors or fragments of meteors which from time to time fall to the earth. These are called aerolites or meteorolites, *i.e.*, air-stones or meteoric stones, the mass from which they fall after its explosion in the air being called a fire-ball or bolide (from the Greek βολίς, a missile, *plur.* βολιδές), the latter term being preferable, as masses of globular lightning and other phenomena are also called fire-balls.

The Chinese records contain a large number of accounts of aerolites which fell in very early times. The Greek and Roman historians also narrate several such occurrences, the most remarkable of these being that of a large stone which fell near Ægospotami in the Thracian Chersonesus, in the second year of the 78th Olympiad, corresponding to B.C. 467 of our chronology. Pliny's account of this (Nat. Hist. ii. 58) is that it was big enough to make a cart-load, and of a burnt colour.* He says

* "Magnitudine vehis, colore adusto."

that a comet was seen at the same time, which may have been a coincidence, but more probably the meteor or bolide in question may have been seen in the sky before any fragment fell, and may have been taken for a comet. Plutarch speaks of this aerolite, and says that the Thracians of his time held it in great veneration; and he expresses his opinion that such masses "are really heavenly bodies which from some relaxation of the rapidity of their motion, or by some irregular concussion, are loosened and fall, not so much upon the habitable part of the globe as into the ocean, which is the reason that their substance is seldom seen."* Reference is also made to it as an important epoch in past times in the Parian Chronicle among the Arundelian marbles. It was inevitable that some prophetic significance should be attributed to so remarkable an object; and when the disastrous sea-fight occurred near that place, by which the Athenian supremacy was destroyed by Lysander, and an end at last put to the first Peloponnesian War (B.C. 405), it was thought that this was the event betokened by the fall of the aerolite which had taken place sixty-two years before the battle. Modern travellers have not succeeded hitherto in finding this ancient meteorolite.

Some have thought that the great stones mentioned in the Book of Joshua as having been cast down from heaven (Josh. x. 11) upon the routed Amorites at the battle of Beth-horon were meteorolites, but we consider it more probable that they were large hailstones, the outcome of the tremendous storm, the gathering of which had darkened the approaching day before sunrise, after the night march of the Israelites to the relief of Gibeon. Hailstones of a destructive kind are expressly stated to have fallen; and there is no occasion to assume a concurrent fall of aerolites.

The question may arise in many minds whether the image of Diana (Artemis) in the temple at Ephesus, of which the town-clerk or record keeper of that city is related, in the nineteenth chapter of the Acts, to have said that it "fell down from Jupiter" (*i.e.*, from the sky), was formed from a meteorolite. Now we are told by Pliny that this image was made of wood, either ebony or vine-wood (he does not seem sure which), and that it was preserved through all the successive destructions of the temple. In its entirety, therefore, it could not have been an aerolite, but the

* "Life of Lysander," c. xii. Langhorne's translation.

wooden image may possibly have been fashioned round a small piece of meteoric stone thus included within it. The same may be said of some similar but less famous objects reported to have been heaven-descended, respecting which we can only offer conjecture as accounting for beliefs which may, however, have been merely results of frauds upon the credulity of worshippers.

Another interesting question in this connection is as regards the black stone in the Caaba,* or cubical building at Mecca, so venerated by the Arabs that Mohammed found it prudent to incorporate the expression of this feeling into that heterogeneous medley of which his pretended revelation is composed.† From a casual inspection of the stone which has been obtained by a few travellers, it is considered probable that it is really a meteoric stone or aerolite, but there is no possibility of ascertaining even approximately the time at which it fell. It is well known that the Caaba in which it is enclosed was, according to Arab tradition, built by Abraham and Ishmael, and this may be admitted to prove that the stone descended at a very ancient epoch.

It would occupy far too much space to enter at any length into accounts of aerolites which have been found or been observed to fall in modern times. A passing reference may be made, however, to the famous meteoric stone which fell at Ensisheim, in Alsace, on the 7th of November, 1492; it is said to have weighed about 250 lbs., but the fragment now existing there is of less than half that weight. Probably the most remarkable shower of large stones ever recorded to have fallen is that which took place at L'Aigle (Department of Orne) in France, in the year 1803. At about one o'clock on the afternoon of the 26th of April in that year, the sky being almost cloudless at the time, a tremendous noise like that of thunder was heard, whilst an immense fire-ball was seen moving with great rapidity in the atmosphere. This was followed by a violent explosion which was heard in every direction to a distance of about 70 miles round L'Aigle. A great number of meteoric stones fell to the earth, scattered over a large extent of country, the largest of them weighing 17½ pounds. A full account was afterwards

* The word Caaba or Ka'aba in Arabic means cube, and is probably cognate with the Greek κύβος, from which our word "cube," and the words similar to or identical with it in other European languages are derived.

† "And remember when we appointed the Holy House as man's resort and safe retreat, and said: Take the station of Abraham for a place of prayer."—Koran ii, 119. Rodwell's Translation.

written of the phenomena by M. Biot, who had repaired to the spot for the purpose.

It is interesting to remark that no new chemical elements have been found in meteoric stones; but the arrangement and combination of the elements contained in them are so different from those obtaining in any terrestrial substance, that a skilful mineralogist has no difficulty in distinguishing a meteoric mass from one of these. In some aerolites stony matters predominate; others are chiefly metallic, these being principally of iron with small quantities of nickel.

When meteors are observed simultaneously from more than one place, and their positions in the sky (indicated by their apparent motions amongst the stars) determined at each, it becomes possible to calculate their actual elevation in the air and the velocity of their motions. The great amount of the latter in many cases is quite sufficient to refute the idea of the terrestrial or even lunar origin of such meteors, and to prove that they are in fact cosmical bodies moving like the planets in outer space with a velocity comparable to theirs. Meteors which fall between midnight and noon owe, of course, part of their apparent speed to the fact that the earth is moving towards them with a velocity of about 20 miles a second. But those which reach the earth between noon and midnight must be actually moving with a velocity greater than this, so as to overtake the earth, so to speak, in its motion. The former are found to be considerably more numerous than the latter; this of itself, however, does not indicate that the actual motion of most meteors is slower than that of the earth, since those which are moving towards us will necessarily reach the earth in the forenoon, when our planet is also moving in their direction; and the relative motion of these is, of course, the greatest of all. Such is the case with the meteoric streams of which we are principally to speak in this short article.

With regard to the height at which meteors have been observed, it has been found to exceed, on the average of those which have been measured, 90 miles when first seen. Indeed this was found to be, in the case of a large one observed at Brussels, Geneva, Paris, and other places on the 3rd February, 1856, no less than 150 miles; and a few have been determined to be at an elevation when first noticed even greater than this.

Now, leaving our introductory remarks on meteors in general, we must proceed to our immediate subject, that of those which

move in streams, in elliptic orbits resembling those of comets, round the sun. Of these the most famous are, of course, those known as the November meteors, though by scientists, since they have been recognised as astronomical phenomena, they are usually called Leonids, for a reason which will become apparent as we proceed.

Although the frequent recurrence of showers of meteors (or shooting stars as they were commonly called from the appearance suggested by them to the eye of stars shot out like missiles) about the middle of November must have long ago been vaguely noticed, it is little more than fifty years since their periodicity at that time was recognised as a fact. Fine meteoric displays were seen on the 13th of that month in the years 1831 and 1832, followed by a very splendid one on the same day in 1833, which was best seen in the United States and off the eastern coast of North America. Attention was then recalled to Humboldt's description of the magnificent shower witnessed by him and Bonpland in South America on the morning of the 13th of November, 1799. Comparison of this fact with the later observations above alluded to seemed to indicate a regular display of meteors on the day in question, which was most remarkable and magnificent at intervals of about thirty-three years. Meanwhile, an additional fact was noticed about them : that, if their apparent paths in the sky were traced back, they all crossed each other near the same point, from which they therefore diverged or radiated. This point was in the constellation Leo ; later and more exact observations showed it to be very near the bright star γ Leonis ; and from this circumstance the meteors of this epoch have acquired the name Leonids, whilst other streams have obtained similar names derived from the constellations occupying the part of the heavens whence they in like manner have been found to radiate. The significance of such a radiant or radiant point is at once apparent, clearly indicating a real motion of the meteors from the point in the sky whence they are seen to diverge. "Accordingly," wrote Sir John Herschel, soon after the display of 1833, "the opinion is generally gaining ground among astronomers that shooting stars belong to their department of science, and great interest is excited in their observation and the further development of their laws."

And now early records and histories were hunted up with the view of learning during how many years these displays of shooting stars in November had been seen, and whether any addi-

tional light could be derived from the amount of regularity of their appearance, and the constancy or variability of the date of this. The principal credit of investigating this is due to Professor H. A. Newton, of Newhaven, Connecticut, U.S. Extending the researches of others, he found that observations of November meteors could be traced back to as early as the beginning of the 10th century, and that the date of their appearance became gradually somewhat later, the following being a list of those of which after a most diligent search any record could be discovered prior to the 17th century :—

A.D.	902	October	13.
	931	,,	15.
	934	,,	14.
	1002	,,	15.
	1101	,,	17.
	1202	,,	19.
	1366	,,	23.
	1533	,,	25.

In consequence of the change of style and omission of ten days from the calendar which was made on the Continent in the year 1582, the dates of the showers of shooting stars belonging to this stream which were observed subsequently to the above were considerably later than those in this list, so that the meteors instead of coming in the middle, and afterwards towards the end of October, appeared subsequently to this change in November, and in the present century (as already mentioned) nearly in the middle of that month. The real retardation of the time of their appearance, since that of the earliest observation of which a record has been found, amounts, therefore, not to a month (as it might at first sight seem), but to between two and three days in each century. The conclusion drawn by Professor Newton was that the meteors belong to a system of small bodies describing an elliptic orbit about the sun, and extending in the form of a stream along an arc of that orbit, which is of such a length that the whole stream occupies about one-tenth or one fifteenth of the periodic time in passing a particular point. He suggested several periods, any one of which might account for the returns of the displays; it being noticed that whilst these were sometimes annual for a year or two, a grand one generally recurred at intervals of about thirty-three years, or nearly a third part of a century. This latter fact had indeed forced itself upon attention in consequence of the brilliant showers of 1799 and 1833, of which we have already spoken;

and it received striking confirmation in the magnificent display in the early morning hours of the 14th of November, 1866. Shortly after this, the question was taken up by Professor Adams of our own University of Cambridge (now also Director of the fine observatory there). He calculated the elements of the orbit of the meteors and the effect which would be produced upon the nodes of that orbit by the perturbing action of the planets; and found that assuming the period of the meteoric stream to be $33\frac{1}{4}$ years in length, the observed retardation in the date of its appearance could thus be satisfactorily explained. Hence it was clear that this was the one amongst Professor Newton's suggested periods which must be accepted as the true interval of time occupied by the meteors in revolving round the sun. That a certain number of shooting stars are seen every year at the epoch in question (to which attention appears to have been first called by Arago) is accounted for by supposing that meteors exist along the whole elliptic ring in which they are moving; that the display is much finer at intervals of about thirty-three years arises from the fact that the meteoric bodies are congregated much more closely together in a certain portion of this ring, the extent of this portion being sufficient to cause the earth to encounter a part of it during two, or sometimes three, successive years at the time when its orbit passes through that of the meteors. The problem was thus completely solved; and the term meteoroids was not long afterwards suggested and adopted for meteors of this class, now known to be moving in streams forming regular orbits around the sun. The orbital motion of the November meteoroids is in the reverse direction to that of the planets, thus of course greatly increasing the relative velocity with which a portion of them enters the earth's atmosphere, whilst the larger part of the mighty stream sweeps on nearly towards that part of space which the earth has left. The perihelion of their orbit, or point in it nearest to the sun, is very nearly in the earth's orbit, and at that point we encounter them moving with their greatest velocity; its aphelion, or point farthest from the sun, is a little beyond the orbit of Uranus, a distance nearly twenty times as great as the earth's mean distance from the sun.

Another period at which meteors are constantly seen is that about the 10th of August, sometimes called that of the Laurentian stream, owing to the day in question being that of St. Lawrence. That such bodies are often seen in August was

noticed more than a hundred years ago by Muschenbrock, of Leyden; M. Quetelet (then Director of the Observatory at Brussels) first called attention in the year 1836 to the fact of their periodicity on or about the 10th of that month. Subsequent observation has shown that their appearance at that time is much more uniform in abundance than that of the November meteors. They radiate from a point in the heavens in the constellation Perseus, and are therefore called Perseids. Their orbit was calculated by Signor Schiaparelli, Director of the Observatory of Milan. It was shown to be much more eccentric than that of the November meteors, meeting, like the latter, the earth's orbit at perihelion, but at aphelion passing to a distance which is far beyond the orbit of Neptune, the most distant known planet. As in the case of the November meteors, or Leonids, the August meteors move round the sun in a reverse direction to that of the earth and planets.

Soon after this another fact was noticed with regard to both these streams, the priority in which belongs to Signor Schiaparelli, in regard to the August meteors, resulting from his own calculation of their orbit. It was that the elements of this orbit are nearly identical with those of the orbit of a comet which was discovered on the 15th of July, 1862, and observed for about three months after that time, during part of which it was conspicuously visible to the naked eye. The comet has been computed to have a period of about 124 years, but its length is somewhat uncertain. Schiaparelli announced the agreement between the orbits of the comet and of the meteors in a letter dated the last day of 1866; and early in the following year it was noticed both by Herr C. F. W. Peters, of Altona, and by himself, that the elements of the orbit of the November meteors also agreed closely with those of a small comet which was discovered by M. Tempel at Marseilles on the 19th of December, 1865, passed its perihelion on the 11th of January, 1866, and was found to be moving in an elliptic orbit with a period, like the meteors, of 33¼ years. It seems probable, indeed, that this comet was observed by the Chinese 500 years earlier, for their records contain accounts of two comets (the one appearing immediately after the disappearance of the other, and moving in very nearly the same apparent path), which were observed in a year corresponding to A.D. 1366. It will be noticed in our list (from Professor Newton) of the early appearances of the November meteors, that one of them took place in that very year (on

the 23rd of October), and it seems probable that both these comets were moving in the same orbit. The conclusion which seems to result from these interesting facts is that there is some close and intimate connection between the comets and the meteoroids, the latter being fragments of the former, or the former aggregations of the latter. Much yet remains to be learnt on the subject; but an equally remarkable fact, still more recently noticed, must be mentioned with regard to it.

The periodical comet, long known as Biela's, obtained that name in 1826, when it was discovered by Biela at Josephstadt, in Bohemia, and determined to have a period of $6\frac{3}{4}$ years in duration. It was afterwards found that it had been observed at two previous returns, in 1772 and in 1805. Subsequently to the discovery of its periodicity, it was observed in 1832, in 1845–46, and in 1852. At the second of these appearances it was noticed that it had separated into two portions, the comparative brightness of which fluctuated considerably. The investigations of the late Professor Hubbard, of Washington, afterwards showed that this disintegration probably occurred in the autumn of 1844. Both portions returned, but at a somewhat greater distance from each other, in 1852. Since then the comet has not been seen at all, at any rate as a comet. But a fine shower of meteors was seen on the 27th of November, 1872, which radiated from a point in the heavens in the constellation Andromeda. Now the earth passes through the orbit of Biela's comet at that date, and meteors moving in its orbit would radiate from that very point. Indeed abundant appearances of meteors diverging from that part of the sky had been seen on several occasions before, particularly in 1798 and 1838 (somewhat later in the year, on the 7th, in fact, of December). In the year 1872 the earth crossed the comet's orbit about three months after the comet itself should have passed the point of intersection. It was suspected that a portion of the receding comet was afterwards seen, at Madras, in the opposite direction (in the constellation Centaur) to that of the radiant point of the meteors; but this remained somewhat uncertain, as it was difficult to reconcile the motion of the body seen with the theoretical motion of the comet. In the year in which we are writing (1885) the earth again crosses the comet's orbit near the place where the comet itself should be, and where we may suppose that its principal part, which is still in some state of aggregation, actually is; but, going to press before the 27th of November, we are unable to say whether any un-

usual display of meteors took place on that day. But, however that may be, the brilliant shower in 1872, with other less marked displays at the same season in other years, must be allowed to furnish a strong confirmation of the connection between comets and meteors, which may now be looked upon as an established fact. There is one other meteoric stream, which has been shown with great probability to have the same orbit as that of a comet. This is the shower seen on and about the 20th of April, which appears to be allied with the first comet of 1861 (discovered by Mr. Thatcher, of New York, on the 4th of April, in that year, and computed to have a period of about 415 years). The radiant point of the principal part of the stream is in the constellation Lyra, whence these meteors are called Lyrids; but Mr. Denning, F.R.A.S., of Bristol, has recently noticed that the shower sometimes continues more or less through seven successive nights, from April 17th to 24th, and that in the interval the radiant point shifts from the constellation Hercules, through Lyra, into Cygnus. For a few years preceding 1882 the display was nearly quiescent, but on that occasion it was very conspicuous, as it was also in 1884, when a large number of meteors were observed at Bristol and other places. In this respect, Mr. Denning tells us, there was a great falling off last April; still he regards the display of 1885 as one of considerable importance, for, though numerically much less rich than that of the preceding year, it furnished meteors of greater interest and brilliancy.

We must now, in conclusion, say a few words about meteoric *dust*. Of the millions of meteors which there can be little doubt enter the atmosphere in the course of a year, a few of the larger masses only fall upon the earth's surface, by far the greater number being consumed in the higher atmosphere. Yet these must subsequently, perhaps after a considerable length of time, reach the ground (brought down, perhaps, by showers of rain or snow), which in all probability accounts for the minute particles of iron and other metals found scattered in regions where their presence otherwise is very difficult to explain. Volcanic ashes are, indeed, often carried to a great distance and precipitated over large tracts of country; and it is necessary to be very careful in distinguishing such productions in published accounts (frequently vague) of the fall of dust, red or black rain, &c., from that which is produced by meteors. As is remarked by Dr. T. L. Phipson, in his book entitled "Meteors, Aerolites, and Fall-

ing Stars," "true meteoric dust, whatever its colour, generally contains grains of augite, or its particles are attracted by the magnet, or it gives, on being analysed, indications of nickel, chrome, carbon, &c., as well as iron and silica." The same author describes how he succeeded in collecting meteoric dust after the great star-showers of August and November, by exposing to the wind a sheet of glass covered with some transparent mucilaginous substance. A very interesting paper on this subject was communicated by Mr. Ranyard, F.R.A.S., to the "Monthly Notices" of the Royal Astronomical Society, in January, 1879. He speaks of the experiments of Dr. Nordenskjöld, on the occasion of the Arctic Expedition in 1872, and also somewhat earlier in Finland, when the analysis of snow collected in regions far removed from human habitations (as well as immediately after a heavy snowfall near Stockholm in 1871) showed the presence of iron and other metallic particles probably of meteoric origin. Reference is also made to a paper by Dr. Walter Flight, published in the "Geological Magazine" in 1875, on the chemical composition of a substance called cryoconite (*κρύος*, *ice*, and *κόνις*, *dust*), found in Greenland in not inconsiderable quantity on shore ice, as well as on ice 30 miles from the coast, and at a height of 700 metres above the sea. This was found to contain certainly one constituent of cosmical origin. Other examinations and observations point to a similar conclusion; and Mr. Ranyard mentions an experiment of his own whilst crossing the Atlantic in the autumn of 1878, exposing some glass plates covered with glycerine to the wind, and afterwards obtaining from them (though he was not quite satisfied with the precautions adopted to secure previous purity, and desires the experiment to be repeated) indications of the presence of iron particles. The sky, as seen from high mountains, appears of a dark blue colour, showing that the air at great elevations contains particles which are small compared with the wave-length of light. Mr. Ranyard suggests that this colour "may be caused by dust derived from the débris of meteors, the smaller particles of which may possibly occupy months or even years in falling to the earth's surface."

It is, however, not impossible that shoals (so to speak) of meteoric dust may exist in outer or interplanetary space, and that this may produce great effects upon the state of the atmosphere and of our weather. The gorgeous sunsets and sunrises of the autumn and winter of 1883 will be in the recollection of

most of our readers. These phenomena must have been produced by the presence of refracting and light-dispersing matter at much greater elevations than usual. The effect was perhaps most conspicuous in the last week of November, 1883; a description of it as seen by the writer on the morning of the 29th of that month is given in the "Science Monthly Illustrated" for the following January. Several causes were suggested to account for these appearances, the most remarkable circumstance about which was their long continuance. One of these, much dwelt upon at the time, was that it was volcanic dust resulting from the great eruption at Krakatoa, in the Straits of Sunda, which took place in the preceding summer, at the end of August. Another was that the effect might be due to numberless minute particles of meteoric dust. Possibly, however, we need not seek any other cause than that which from time to time produces similar effects in a less marked degree, the scattering and dispersing action upon the sunlight produced by aqueous vapour carried to unusually great elevations. One thing is certain, that the phenomenal sunrises and sunsets in question furnished an instance, not easily to be forgotten, of the way in which with lavish hand the great Creator has scattered beauty through the visible universe—

"Thus wondrous fair! Thyself how wondrous then!"

The above sketch of the knowledge which has been acquired of meteors and meteoric streams has necessarily been very brief, and therefore imperfect; but enough has been said to give a general idea of our present position with regard to it, and to enable the reader to feel an interest in the increase of that knowledge which cannot but result from continued and assiduous observation.

Of the stream which is best understood, the November meteors or Leonids, another brilliant display is not likely to occur until 1899, when a shower similar to those of 1833 and 1866 will be eagerly expected.

W. T. Lynn.

ON THE RESULTS OF EXPLORATION IN PALESTINE.

One of the finest scientific achievements of modern times is the survey of Palestine, now completed as far as concerns the country west of Jordan, by the engineer officers and scholars working for the committee of the English "Palestine Exploration Fund." This great undertaking has drawn to a focus a large expanse and variety of talent, with the result of enlightening much that was dim and vague, and ascertaining great multitudes of doubtful points.

The records of twenty years' effort are now under our eyes in the "Quarterly Statement," and are embodied in the magnificent work possessed by subscribers to the Survey and Memoirs, in the large map and seven quarto volumes which accompany it. Besides this there are the beautiful reduced maps, and several important volumes which may well be regarded as satellites, such as "The Desert of the Exodus," "The Recovery of Jerusalem," "Underground Jerusalem," "Tent Work in Palestine," "Heth and Moab," to which we may certainly add the sadly thrilling tale of the noble life and tragic death of the lamented Professor Palmer.

For "the general reader" the outlines are boldly drawn in a very interesting way in the small authorised volume "Our Work in Palestine."

But we must halt for a moment to dispel any mistaken notion that the Palestine Exploration Fund Committee has ended its labour of love. Far from it. Eastern Palestine is now the subject of a fresh start of enterprise, and some outlying regions are so vitally connected with the matter that they are being taken in more or less completely as "annexes" to the main structure. Such are, northwards, the Lebanon and Anti-Lebanon, and the great region of the Orontes basin, now becoming famous under its ancient Biblical name "the Land of the Hittites," and, southwards, the country from Beersheba to the frontier of Egypt and the venerable Sinaitic Arabia. So that the workers are busy still, and need continued and earnest support in these supplemental operations. So vitally do all these things belong to the Bible that they have a character of sacred interest far more dear to a good Briton than any merely

sentimental charm or zest of scientific inquiry. And this most fitly secures the allegiance of religious minds, both those who dwell with reverent love on the past, and such as forecast the destined future of the Holy Land.

To the scholar these results of which we write are dear and full of deepest concern, for these lands lie in the full swing of those great magnetic currents, between the Persian Gulf on the east and the Nile on the west, that have wrought the history of all the most ancient imperial races of the children of men; and from their sea-coasts in each direction has radiated the centrifugal force of nautical enterprise over the great world. Not so only, but here have first nestled the young alphabets, the nascent literatures, the unfledged sciences, that in due season have made flight through earth and heaven. And here above all the great "purpose of the ages" found its ever-germinant fulfilment.

Among the talented officers of the Royal Engineers who have carried out the survey of Western Palestine, the names of Wilson, Anderson, Warren, Conder, Kitchener and Mantell will be held in lasting remembrance, and their subordinates in the same noble branch of Her Majesty's Service have deserved and received worthy record in the narratives.

Besides these a number of allies have been enlisted from time to time who have given their learning and enterprise to the work. Tyrwhitt-Drake and Professor Palmer have in different ways given their lives in the East. The accomplished and beloved Holland, after all his Sinaitic wanderings, died on a green mountain-side by the Lake of Thun. Canon Tristram and Clermont Ganneau are still with us. Grove and Besant, too, need no "honourable mention," and many an ardent volunteer is ever ready to bear a hand as opportunity arises.

In making a rough estimate of these things we will first speak of what is done, and then of what wants doing.

The Great Ordnance Survey Map is the basis of all, and a noble achievement it is, as those who have seen its great expanse hung up in a lecture-hall will testify. Six-and-twenty sheets with brown hill-shading and blue waters bear the names of all the places, little and big, and even ruins and heaps of structures, great and fair, but now without inhabitant. Seven portly volumes of "Memoirs," topographical, philological, archæological, and illustrative of natural science wait on this great survey to furnish its explanation. And a separate collection of large plates,

with a descriptive account, illustrates the focus of interest, the city and immediate neighbourhood of Jerusalem.

Then we have, in convenient size and form for the library, the beautifully clear reduced maps :—1, with Old Testament names ; 2, with New Testament names ; 3, with water-basins and sections, admirably adapted for geographical study by Mr. Trelawney Saunders : and 4, the Modern Map.

It is manifest that the extreme value of a perfect survey like this will become more and more apparent in every aspect with regard to the Biblical and general study of the land, and also with reference to all practical questions of property and culture, road-making and improvements, and those greater political questions which will certainly arise in the future history of the Hebrew people themselves, and the nations of the world.

When we remember that two good plans of railways have been propounded, one for Western Palestine, and the other a high level line on the east of Jordan ; that Mr. Oliphant's scheme for the colonisation of Gilead by Jewish refugees had great promise of fulfilment when English political changes interrupted it ; and that the Orontes and Euphrates Railway will surely one day bring Syria into the line of commerce between Europe and India, any thoughtful mind will project for itself results which will justify the highest appreciation of the labours of the Palestine Exploration Fund Committee.

But we will now come to matters more of detail.

Viewing geography and topography as the background of history, the very successful labours of surveying officers and scholars have put the Biblical narrative in quite a new and brighter light, and dissipated innumerable errors of ignorance and scepticism, especially with regard to the Old Testament. The records of the Bible are viewed from within by textual criticism and ever-varying theory, with their resulting interminable doubts and negations, but externally from the standing-points of monumental, topographical, and ethnologic research ; and it is undeniable that these have proved a very powerful antidote to the other. It is not the Egyptologist, the Assyriologist, the surveying officer, or the accomplished traveller, who casts disparagement and doubt on the historic narratives of the Bible. On the contrary, the firmest basis of reasonable belief as regards external matters is afforded by such study.

For here it is that records much older than the date of the Pentateuch, graven with the chisel on Egyptian walls, and, much

later, inscribed with the stylus on Assyrian terra-cotta, interweave themselves with the land and the book. The lists of tributary towns inscribed on the walls of Karnak by Thothmes III, nearer to the times of Joseph than of Moses ; the great tableaux of the Victories of Seti I and his son Rameses II, shortly before the Exodus, and again of Shishak, contemporary of Rehoboam ; and, in Assyria, the Records of Shalmaneser II, of Sargon, Sennacherib, Esarhaddon, and Assurbanipal, are all undergoing still closer scrutiny in their relation to Biblical geography and history, with results of ever-increasing interest.

Then again, the successive stages of the Exodus, as well as the scene of the far earlier works of Joseph, are coming to light, under the hands of the Egypt Exploration Committee and their accomplished explorers, M. Naville and Mr. Flinders Petrie, and these new labours interlace themselves with those of Palestine Exploration, as do also, in the north, the inquiries of scholars interested in the Hittite discoveries, such as Professor Sayce, Colonel Sir C. W. Wilson, R.E., and Captain Conder, R.E., the Rev. Dr. Wright, of the Bible Society, and the Rev. Canon Isaac Taylor.

Thus, by means of a chain of discovery, reaching from the Nile to the Persian Gulf, the ancient times and scenes of the first great Empires of the World lie stretched beneath the dawn of a new daybreak.

"This is the Lord's doing, and it is marvellous in our eyes," for no devout mind can fail to mark the extraordinary correspondence between modern questionings and the answers returned by the interrogated monuments of freshly-revealed antiquity.

With regard to the topography there is a great difference between Palestine and Northern Syria. In Palestine we have to draw on the Bible itself, with Rabbinical sources, and the travels of pilgrims, and the works of Josephus, besides the very valuable information derived from Egyptian records. For the country north of the Lebanon the scriptural allusions are scanty, but the annals of successive Assyrian kings who led their armies across the Euphrates, and laid the Hittite land under tribute on their march to Phœnicia and Palestine, and sometimes even Egypt also, have given us much knowledge parallel with the times of the books of Samuel, Kings, and Chronicles, from which, by the labours especially of Schrader and Friedrich Delitzsch, of the two Rawlinsons, George Smith, Sayce, Lenormant, and Maspero, more and more help and guidance may be gained by the traveller and the archæologist.

This is a most inviting field of further research, and the Palestine Fund Committee are ever awake to its importance and desirous to communicate with travellers and receive help of every kind.

The country of Moab, and Bashan, and Gilead, on the east of the deep Jordan Valley, was reserved for a separate survey, and of this five hundred square miles have been already mapped, thanks to the excellent staunchness of Captain Conder, R.E., in the face of extreme political difficulties.

As soon as may be this field work will be resumed, and, since it is a private scientific enterprise, and not (as with Continental nations) a Government survey, it needs always to be kept before the multitude of home readers and Bible students, on whose contributions all depends.

The contributors, however, have not simply the reward of seeing a great work carried forward, but (if they choose) the rich recompense of gaining fresh information and various kinds of interest through the pages of the "Quarterly Statement" sent from the office to all subscribers of ten shillings or upwards yearly. And such readers are drawn pleasantly into a very absorbing and delightful line of study in their leisure hours, as many will gladly bear witness. Every principal town has, or ought to have, an honorary local secretary to gather support and arrange meetings and lectures, and the like. Institutes and reading rooms ought to be enlisted as subscribers, and, of course, in such places the reduced maps should hang on the wall. Most interesting illustrated lectures are given by those gentlemen who are authorised by the committee to represent them. The great map is shown, and photographs are exhibited by lime-light at such lectures. It is characteristic of England that so great a public work of world-wide importance should thus be carried on by towns and villages and outlying subscribers, instead of being the work of the nation through a department of Government. In this way a vast amount of local and individual interest is kindled. And in this odd fashion things get done with greater efficiency in some ways by many hands and willing hearts than in the more stately mode of the *bureau*.

Archæology has been hitherto pursued only in a secondary line of inquiry, but not without very important results, as those will testify who from time to time have seen the objects collected in temporary Palestine museums, and now at South Kensington. M. Clermont Ganneau is about to publish a valuable catalogue

of all the various antiquities, inscriptions, &c., thus discovered, with illustrations, as we trust.

Those two most important monuments, the *stela* of Mesha, King of Moab, and the Inscription of the Siloam Channel, both of the period of the Kings, are now well known. Of course the abhorrence of idolatry has led to the destruction in ancient Biblical times in Palestine of innumerable monuments of that complexion, and doubtless the Mahometans of later days have been keen iconoclasts, but small objects are found now and then that are genuine, and inscriptions must still be lurking, and the discovery lately of a great many rude stone structures, especially eastward of Jordan, is very encouraging.

It is most probable that considerable spoils await more thorough examination of principal ancient sites than have hitherto been possible in the course of the field-survey.

That modern development of archæology which is now called anthropology has not been neglected. The various articles on folk-lore, customs of home and society, worship, superstitions, dialect, and *patois*, and the like, by M. Clermont Ganneau, Mrs. Finn, and others, in the "Quarterly Statements," have led to a great increase of curiosity and interest in these matters, and a movement is now being organised to draw together and digest into good form the mass of information which shall be obtained through very extensive inquiry. Readers of the "Companion" may hope for more on this head another year. And on such a basis we may well hope for ethnological results of solid advantage. The highly important questions raised as to remnants more or less extensive of the old Canaanite populations, which may be traced among the *fellahîn* or local peasantry, as distinguished from the roving *bedâwîn*, will be more thoroughly followed up.

It will be readily perceived that such researches must be made as promptly as possible, before the sources of confusion and error arising from the *imbroglio* of Jew and Gentile, refugee and traveller, excursionist and vagabond, and the cross-currents of "political complications," render such learned work more and more hopeless unless it be pursued without loss of time.

We will now give a sketch of the contents of those seven handsome quarto volumes which form the records of this work.

The first three volumes contain the memoirs illustrating the twenty-six sheets of the great map. These memoirs are arranged by subdivisions under the heads (for each sheet) of—(I) Section A, Orography, Hydrography, Topography, Roads,

and Cultivation ; (II) Section B, Archæology ; (III) Section C, Ethnography. They are accompanied by plates of the most important points, structures, &c., and plans, and inserted woodcuts of details. Thus the reader can pursue continually one line of inquiry throughout, or else read up all the information with regard to a single district or neighbourhood, or look out any separate point as in a Gazetteer. If, for instance, architecture be his study, he will find most accurate views of the buildings of all ages remaining, from the rude megalithic "tomb of Hiram" to the great crusading fortresses that crown the commanding heights.

Here are hewn caves and dolmens, Phœnician, Jewish, Roman, Saracenic, and Christian buildings, with inscriptions and wall-paintings and sculptures.

Or if a man wants to know what is made out as yet with regard to the venerable Hebron and the sites in its neighbourhood, he will find all grouped together under various heads.

Here are the remains of the great Roman fortified port of Cæsarea, which were surveyed and drawn and described only in time to preserve the memory of these interesting antiquities, which are now being rapidly destroyed by Moslim refugees from Bosnia and Herzegovina, as we are told in the "Quarterly" for June, 1884. But we have here no room for detail.

Jerusalem is reserved from these volumes, and to it is devoted a separate tome, besides a portfolio of drawings, plans, sections, and detailed description.

The fourth volume contains lists of the local names of each of the twenty-six sheets, given in Arabic and transliterated, with annotations on derivation and meaning by the late lamented Professor Palmer, of Cambridge. This subject will receive further careful study and increasing elucidation as time goes on, and, indeed, successive numbers of the "Quarterly Statement" bring to light new and very interesting explanations and identifications of the names in present use. Professor Palmer writes in his preface, "To determine the exact meaning of Arabic topographical names is by no means easy. Some are descriptive of physical features, but even these are often either obsolete or distorted words. Others are derived from long since forgotten incidents, or owners whose memory has passed away. Others, again, are survivals of older Nabathæan, Hebrew, Canaanite, and other names, either quite meaningless in Arabic, or having an Arabic form in which the original sound is, perhaps, more or less preserved, but the sense entirely lost."

This last paragraph indicates a class of names now under examination with interesting results. And it must be remembered that these names do not find their original and proper vehicle in Arabic writing. Many of them are far more authentically clad in ancient Hebrew or in Assyrian cuneiform, and many are preserved with the vowel-sounds more or less perfect in hieroglyphic form, as they were engraved on the walls of Egyptian temples. Where these names can be surely identified in hieroglyphic or in cuneiform syllabic character, we have a guide to the true vocalization which is invaluable, and an appeal from the pointing of the later Hebrew texts.

This is a very attractive subject, as many scholars will testify, and will repay patient and elaborate study. But we must not halt in these pleasant pastures.

The next volume is a most interesting collection of "Special Papers," reprinted from past numbers of the "Quarterly Statement." These include such subjects as outlying explorations of the Desert of Tîh and Moab, by Professor Palmer, of places in Northern Syria, and in the Anti-Lebanon, of the Orontes Valley, in the neighbourhood of the Hittite capital Kadesh, by Captain Conder, R.E., with accounts of the Hittite inscriptions, and the Rev. Grevile Chester's important investigations of places in and beyond the eastern borders of the Delta, with reference to Brugsch's theory of the route of the Exodus. And in the second part we have the exceedingly important Karnak list of Palestine of Thothmes III, and the now celebrated papyrus of the Mohar's route through Palestine and Syria and back to Egypt, dating from the 19th dynasty, about contemporary with the Exodus; and the notices of Palestine in the Assyrian records, besides papers on the synagogues and tombs, early Christian and mediæval topography of Palestine and Samaritan topography, the sanctuaries of Moslem saints and their substratum of heathen tradition, the scenery of David's outlaw life, &c.; and in a third part some accounts of the Fellahîn, the Arabs, and Syrian cave-dwellers. It will thus be seen how liberally the Committee have regarded the purposes of their commission, and how many doors have been opened for further and largely extending researches.

The advantage to all travellers and students is very manifest, as well as the motive-power thus generated for fresh serious inquiry by those who for any purpose pass through the country, and who formerly might have vaguely spent their golden oppor-

tunities, whereas now they ought to deem themselves enlisted in a noble work.

The next volume is devoted to Jerusalem, although it has some appendices of outlying excursions.

It is well known that the great determinations of sites are still waiting for some further excavations which are hindered by want of funds and by local and political difficulties.

This is not the place for discussion of such matters; but a few salient points of interest must be marked. The remains of ancient architecture and engineering works are, of course, of the greatest historic interest. Those most worthy of notice are as follows:—The great scarps in the present British cemetery may be as old as David, or even earlier. Perhaps the ancient tomb known as that of Nicodemus may be of the date of David or Solomon, and a Royal tomb.

The now celebrated tunnel from the Upper Spring to the Pool of Siloam, with its invaluable Hebrew inscription, appears to be of the time of Hezekiah, or even earlier.

The great wall discovered on Ophel seems as early as the time of Nehemiah.

The great drafted masonry of the old temple walls, of which a part is so sadly celebrated as The Wailing Place, is now generally taken as Herodian; but there are still some who believe in an earlier date.

We cannot here go into later questions, except on one or two points.

The place of supreme interest—Calvary—is believed by many high authorities to have been at last identified by Captain Conder, R.E., and if he is right we may with literal truth sing the beautiful verse of the children's hymn—

> "There is a green hill far away,
> Without a city wall,
> Where the dear Lord was crucified,
> Who died to save us all."

For it is a grassy flattish knoll north of the Damascus Gate, in which is a cave known since the 15th century as the Grotto of Jeremiah, with a cliff running along its south face, looking towards the city, and about 50 feet in extreme height. The Jews say that this was the place of public execution, and the old Christian tradition points to this vicinity as the place of the stoning of Stephen.

Of course the Jerusalem volume is rich with interest of many kinds, and it would require as much space as the whole at our

disposal to give a sufficient account of these results; the reader must therefore be referred to the Memoirs, or to "Our Work in Palestine," the compact and cheap book which contains so much information in so small a compass.

The last volume of the Memoirs contains the Zoology and Botany of Palestine, and is the work of Canon Tristram; it is illustrated by coloured plates of some of the most interesting animals and birds, reptiles and fish; we have here the pretty soft little hyrax, the cony of the rocks; the gallant-looking ibex, with his strong recurved horns. And, among birds, the African darter, with its wedge-like, swift figure; and the brilliant and very curious sunbird of Palestine, with the gorgeous plumage of a humming-bird, peculiar to the country, and almost restricted to the deep tropical gorge of the Jordan.

The crocodile is still in Palestine, for Dr. Tristram found his footprints in the mud of marshes not far from Samaria, and succeeded in procuring a fine specimen; we remember, besides, that the canoe of the adventurous Rob Roy was actually bumped by this ungainly Leviathan in "that ancient river, the river Kishon." Among the fish are some interesting kinds from the Sea of Galilee, named very properly from Andrew and Simon, whose nets must often have drawn them to the sacred shores.

It is very curious indeed that these fish are otherwise exclusively Ethiopian, "and," says Dr. Tristram, "the occurrence in such variety of these African forms in the Jordan basin is one of the most significant links which attach the Palestine fauna to the Ethiopian."

The flora of Palestine is rather a bald and technical catalogue, in which most readers will regret the absence of a little more detailed and popular information with regard to the stately "trees of the Lord," and the lovely "lilies of the field."

We have not yet mentioned the valuable contributions to discovery in Palestine which have been made by our brethren on the other side of the Atlantic, especially by the Rev. Dr. Selah Merrill and his companions on the east of Jordan, and by the Rev. Dr. H. Clay Trumbull, of Philadelphia, in his valuable work "Kadesh Barnea," and in the "Quarterly Statement."

In the further progress of the work of the Palestine Fund Committee all possible help is needed, as the expense is of necessity very heavy, and what can be undertaken must of course be limited by the support provided. All information may be obtained from the Secretary, Walter Besant, Esq., 1, Adam Street, Adelphi.

H. G. Tomkins, M.A.

THE INTERNATIONAL INVENTIONS EXHIBITION.

In his speech at the closing ceremony of the Fisheries Exhibition in 1883, His Royal Highness the Prince of Wales intimated that three more Exhibitions would be held in the three following years. The first of these was the International Health Exhibition, held last year; the second was an "Exhibition of Industrial Inventions, especially *Labour-saving Machinery*," of which we are about to give a brief sketch; the third will be an Indian and Colonial Exhibition.

The field opened by the "Inventions" was an enormous one, and though the buildings in the Horticultural Gardens were considerably enlarged, the applications for space were so many that the most careful scrutiny had to be exercised by special Committees appointed for the purpose, and eventually only those inventions which appeared to be of sufficient public interest or importance, and which dated since the year 1863, were admitted. The subject of Music being afterwards added, the Exhibition was thus divided into two divisions—I being Inventions, and II Music.

To understand the enormous field covered by the First Division we have only to glance at the groups into which it was subdivided. These were—Agriculture, Horticulture, and Arboriculture; Mining and Metallurgy, Engineering construction and Architecture; Prime movers, and means of distributing their power; Railway plant; Common road carriages, &c.; Naval architecture; Aeronautics; Manufacture of textile fabrics; Machine tools and machinery; Hydraulic machines; Presses, machines for raising heavy weights, weighing, &c.; Elements of machines; Electricity; Apparatus, processes, and appliances connected with applied chemistry and physics; Gas, and other illuminants; Fuel, furnaces, &c.; Food, cookery, and stimulants; Clothing; Jewellery; Leather, &c.; Indiarubber and Gutta-percha, &c.; Furniture and accessories (fancy goods); Pottery and Glass; Cutlery; Ironmongery, &c.; Firearms (military weapons and equipment, explosives); Paper, printing, bookbinding, stationery, &c.; Clocks, watches, and other time-keepers; Philosophical instruments and apparatus; Photography, Educational apparatus; Toys, sports, &c.

Passing through the entrance vestibule, the panels of which

were decorated by Messrs. Gillow with cartoons illustrating the historical development of some of the principal inventions represented in the Exhibition, the visitor descended the flight of steps leading into the great Southern Gallery, with its North and South Courts or Annexes, which made this portion of the buildings three times the width of last year. In the centre of the gallery, devoted mainly to implements of warfare and railway plant, the first objects which met the eye were the War Office and Admiralty displays of guns, torpedoes, and materials of war. Then, towering above its surroundings in majestic size, was the splendid three-cylinder locomotive by Webb, of the North-Western Railway, called the "Marchioness of Stafford." The chief points of scientific advance realised in this extraordinary sample of mechanical engineering work, and the object it was designed to accomplish, are the greater economy of fuel, the doing away with coupling rods, and of the double-throw crank, whilst at the same time retaining the advantage of having the weights on two pairs of wheels for adhesion without the necessity of coupling them.

The railway brakes, of which the public have of late years heard so much, were shown in action, and the respective merits of the Westinghouse and vacuum brakes were shown side by side, and really appeared to make a railway collision more a matter of criminal negligence than of accident. To the unprofessional mind the vacuum brake especially, as shown here, appeared to be absolutely perfect. To railway travellers familiar with the clumsy and dangerous methods of coupling carriages and trucks, there were many exhibits which suggested the thought that it is quite time that a sweeping clearance should be made of the old appliances.

The great gun which presented its muzzle to the visitors as they descended the steps was hardly suggestive of an international invention, and did not seem by any means to support the polyglot greeting of Messrs. Treloar and Sons, of Ludgate Hill, whose mats at the foot of the steps displayed a "welcome" to all nations, each in its own tongue. This 12-ton gun will pierce over 14 inches of armour at 1,000 yards.

Among the Government exhibits of arms and stores, the torpedo naturally attracted a good deal of attention, but it was clear that a large majority of the spectators had but little knowledge of what a torpedo is or what it does. There was one in the condition in which it would be used, and there was

another with a section taken out of its plates, so as to exhibit something of its internal mechanism. Those who have paid any attention to the subject of torpedoes know that the "fish," or Whitehead, is propelled by compressed air acting on mechanism inside the body of the torpedo, by which the screws forming the tail of the fish are revolved. By far the most notable engine of destruction exhibited in this collection was the Gatling gun, a little lower down in the gallery. Anything of the kind more frightful is scarcely possible to imagine, and there is not much difficulty in understanding that one of these guns proved sufficient the other day to rescue a Canadian regiment from imminent destruction, and to break the heart of the rebellion. The gun had a circular box on the top like a thin cheese stood up on its edge. The cartridges are placed in this box—about 100 of them—and when one box is emptied it may be removed and another put in its place in five or six seconds. When the box is full the cartridges are fired by turning a handle as fast as possible, and through the ten barrels of the gun a fearful hail-storm of bullets may be showered out at the rate of no less than 1,200 a minute. This gun is said to have an effective range—at which it will kill, that is to say—of a mile and a half, and as all the time it is pouring out its tempest of lead it may be sweeping round from left to right and from right to left, backwards and forwards round the horizon, it really seems as though it would be impossible for any living thing to approach it, while, by a very trifling modification, made in an instant, it may be worked just as well in retreat as when stationary. There were several of the more recent forms of gun here, including the "Maxim," which only requires that it shall be put in position and the trigger pulled, and it then goes on firing itself by the recoil at any rate of rapidity from one shot a minute to 500.

The rest of the Government exhibits comprised gunpowder and other explosives, and various contrivances for keeping down the population of the globe. There was also a show of bayonets, to which recent reports of an unpleasant character from the Soudan imparted a special interest. The manufacture of rifle stocks was likewise exemplified. On the other side of the platform was a military forge, which generates a great speed of current in a small space without back draught, and a 20-ton hydraulic jack which is filled with methylated spirit. A large portion of space was devoted to the exhibits of the Royal

Engineers, which illustrated submarine mining, signalling, bridge-making, pontooning, and other military work.

The display of implements of warfare was altogether very fine; but one could hardly help feeling that it seemed somewhat out of place in an Exhibition, one great object of which is alleged to be the furthering of peace among the nations of the earth.

To the left of the army guns were several cases of sportsmen's fire-arms and ammunition by many of the best known makers. Hammerless guns were a notable feature. One of the latest improvements shown was J. T. Needham's cartridge ejector, by means of which either or both cartridges are ejected from the gun automatically when the breech is opened, thus insuring great rapidity in loading. A complete wild-fowl shooting equipment, consisting of a double-barrel breech-loading swivel gun (the first made), a fowling punt and its belongings ready for use, and guns with steel tubes, which are beginning to be patronised by gunmakers as a substitute for the iron Damascus barrels, were among the novelties exhibited.

A far more peaceful spectacle was presented by the South Annexe of the large Gallery, devoted as it was to machines and appliances connected with Agriculture, Horticulture, and Arboriculture. Here were to be found all kinds of machinery used in these days of scientific farming, such as portable steam engines, steam ploughs, mowing, reaping, and hay-making machinery, sheaf binders, corn and seed drills, steam diggers, chaff and turnip cutters, grist mills, dairy and horticultural appliances, and innumerable other labour-saving machines, all of which have either been invented or developed since 1862, and are more or less familiar to visitors to the Royal Agricultural Society's and other shows. Among the most interesting of these were Messrs. Aveling and Porter's large road locomotives, Messrs. Hornby and Sons' sheaf-binder harvester, which took the first 100*l.* prize of the Royal Agricultural Society; the American sheaf binding reaper; Messrs. J. and F. Howard's sheaf binder, to cut and bind all kinds of crops into sheaves; Messrs. Ransoms, Sons, and Jeffries' patent furnace for burning vegetable refuse where coal and wood are scarce; meadow grass mowers; and a large silo by T. W. Reynolds and Co. The Aylesbury Dairy Company and the Dairy Supply Association exhibited, among other things, the Danish cream separator.

More or less in the open air to the south of the South Annexe were to be found a pneumatic railway, a tramway with air-

engine and car, an electric railway, and a portable small-gauge railway, excavators and cranes, and horticultural buildings in connection with which the system of glazing without putty, practised by Messrs. Rendle and Co., of Westminster Chambers, attracted much attention.

The North Annexe, officially described as "Mining and Metallurgy and Engineering Construction," was not attractive to the multitude from its nomenclature; but in addition to a considerable display of mining machinery, such as rock drills, stone breakers, ore crushers, steam pumps, winding apparatus, hauling engines, and the like, there were a number of exhibits of more general interest. There were, for instance, to be found models of the floating and lifting dock type; a pottery, where a man and a couple of girls were engaged in turning out special pots for orchids, the potter's wheel being driven by a gas-engine—a novelty that relieves the country of a form of white slavery; a movable door-bottom, a method applicable to any door, by which rain and dust can be excluded from a house or room; a new blind, in rivalry to the Venetian blind, which enables you to enjoy shade while admitting light, and permitting of observation on the outside of the house; a large machine for testing the strength of metals; a model of the junction of Gracechurch Street, Bishopsgate Street, Cornhill, and Leadenhall Street, to illustrate a scheme for the better protection of foot passengers in crowded thoroughfares—first by means of underground passages, and, secondly, by means of a system of "stop" and "proceed" signals hung on posts, like railway semaphores, which would be worked by a policeman stationed in a look-out high above the level of the street, in the centre of the road; a display of manganese bronze, notably a propeller blade taken from a wrecked steamer, which, though bent, had not been broken; a machine, shown by a Newcastle firm, which deals with the sweepings of engineers' shops and brass foundries, separating, by means of a magnet, the iron from the brass and refuse, which latter is subsequently washed out from the brass—a machine which in full size can deal with two tons of sweepings in an hour; miners' picks; fuses for firing a number of charges simultaneously; and the compressed lime cartridges now coming into vogue for blasting coal, as a substitute for gunpowder, dynamite, and other flame-producing agents. A most interesting exhibit was the Fleuss breathing-dress, which is now being used to a limited extent in the dangerous workings of collieries, the air breathed

passing through a filter, and oxygen carried in the cylinder at the bottom of the knapsack being at command when required. Dwellers on and frequenters of the Thames could not fail to be interested in Webb's automatic tidal lock and weir, which, without obstructing the tides or flood waters, will, the exhibitor maintains, impound a quantity of water sufficient to allow the navigation of the river to go on, both up and down, at all times of the day. It was specially designed in view of the disgraceful state of the Thames at Twickenham, where the exhibitor, a cabinet-maker and furniture dealer, resides. Mr. Labouchere, M.P., recently drew public attention to the scheme, and the Local Board of Twickenham has commended it to the notice of the Home Secretary. An exhibit which possessed points of interest even for the most unscientific of minds was the *Electro-Amalgamator*, which extracts gold from its ore under the influence of electricity. Everybody stopped to watch the gold-beater, whose little workshop was directly opposite the Electro-Amalgamator stand. Nothing made by the hand of man equals a sheet of gold leaf in thinness. The gold leaf comes to the gold-beater in inch-wide ribbons, not the thickness of newspaper, eight yards long, which he divides into inch squares, each weighing six grains. The gold-beater first puts a square between each sheet of a four-inch square "kutch"—that is, between the 180 leaves of a parchment-covered pile or book of "kutch paper," a material made from the hides and intestines of animals. With half an hour's beating the inch-square piece has been extended into a sheet three inches square. These three-inch squares having been each cut into four squares, each of the new squares is placed separately between the 720 sheets or leaves, or a larger pile or book of skins, called a "shoder." The "shoder" is beaten for an hour and a half, when it is found that each piece of gold has been extended into 4½-inch squares. These squares are again quartered, the number of squares now reaching 2,880. Then comes the final process which demands the exercise of great skill. The squares are put into a "mould" consisting of sheets of gold-beaters' skin, one square, as before, being placed between each sheet. The "mould" is divided into three parts of 960 sheets each, and each section is beaten nearly five hours. The gold-beaters' skin used in this final process is so thin as to be almost transparent, although it consists of two thicknesses. The skin is prepared from the larger intestine of the ox. Each sheet of the skin has previously been rubbed with a powder made from

calcined gypsum of a very pure sort obtained from Derby, which prevents the gold from sticking to the skin. When the beating of the mould is finished the area of the squares has been increased from 4½ to 5½ inches. The beating of the "mould" takes fifteen hours (five hours each section), so that the entire process occupies 17½ hours. The iron hammer with which the "kutch" and "shoder" are beaten weighs 18 to 20 lbs., and the beating of the "mould" is commenced with a hammer weighing 8 lbs., and finished with one weighing 10 lbs. The anvil is a block of marble. Although the spectator may not realise the fact, the hammer is brought down full on its face. Messrs. Bennet and Son, Turnmill Street, Farringdon Street, made this exhibit.

The Queen's Gate Annexe, which was occupied by Belgium and France last year, and formed a kind of western wing to the main buildings, next claims attention. This year it was devoted mainly to naval architecture and carriages. The models of line-of-battle ships and vessels of all kinds, including yachts, brought out in a very marked manner the changes and improvements made during the last twenty years. Among the newest suggestions of the most interesting character was a "machine," if so it can be called, which is not unlikely to create a sensation in due time. It was the "Aqua-aërial," or wave ship, sent by its inventor, Mr. James Dickie. This startling invention is designed for mail, express, and passenger service, also for unarmed war ships, torpedo-boats, and indeed, for all purposes in which great speed and quick manœuvring and stopping qualities are desirable. It is of shallow draught when at rest, and when set in motion its draught decreases with the increase of speed, so that instead of ploughing its way through the water it skims along over the surface, thereby avoiding the chief cause of resistance to progress, *i.e.*, wave making. This is accomplished by making the bottom of the vessel of a series of inclined planes, placed one above the other. Mr. Dickie claims that his "wave ship" will not roll, and that it will cross the ocean in a much less time than any other vessel hitherto constructed; indeed he believes he will be able to go from England to New York and back in six days, and cross the Channel in twenty minutes. Another model illustrated a new method of modern propulsion, consisting of a movable flat-bottomed arrangement in sections, which can be agitated with a wave-like motion for propelling purposes. There were in this department numerous life-saving

appliances, such as folding rafts; seats which, when detached, serve as rafts; anchor gear, torpedo-boats, &c. The water tricycle-boat, though now well known, could not fail to be interesting, illustrated as it was by an exceptionally neat model.

The carriages exhibited mostly by our leading coach builders were excellent, and showed that no nation can compete with us in this kind of work. There was not, indeed, much in the way of novelty, but two improved hansom cabs, by Brocklebank, of Old Jewry, and Abbott and Co., of Bideford, were worth notice. The one was a model of improved hansom cab, fitted with patent combination weather shield and safety window, obviating the necessity to close the cab in wet weather; also fitted with improved rein-bearer, for enabling the driver to shift the reins clear of the passenger entering or leaving the vehicle. The other was a new patent four-seat Devon hansom cab. This two-wheel cab is offered as a substitute for the ordinary four-wheeler, as it carries four passengers and luggage with the same speed and comfort as an ordinary hansom, whilst the draught for horses and dead weight are but little in excess of that vehicle.

Passing by the perambulator show, of special interest to mothers and nursemaids, a fine collection of bicycles and tricycles invited attention; and we only regret that we have not space to go into details in reference to some of these exhibits in a branch of inventions, which not only ministers to the pleasures of tens of thousands of persons, but is likely to be extensively adapted to business purposes.

Passing back into the main buildings, the Aquarium, which was constructed for the Fisheries Exhibition, and was managed during the "Healtheries" by the National Fish Culture Association, attracted attention, and was found as popular as ever. The Association kept it well stocked; and the most recent and interesting additions to it towards the close of the Exhibition were a consignment of fresh-water cat-fish, sent by the United States Government, and the young fry of the American white fish (*Coregonus albus*), and of land-locked salmon, which had been reared at the Piscicultural Establishment of the Society at Delaford Park, near West Drayton, where the indefatigable and scientific secretary, Mr. W. Oldham Chambers, has got things into working order, the breeding apparatuses and rearing ponds being admirably arranged. Great credit is due to him for his work there and at the Exhibition; and we venture to suggest that the public would be well advised to give greater support to

the Association than it has hitherto received, as both anglers and fish consumers are already greatly indebted to it, and will be so to a still greater extent if it meets with the assistance which it requires and deserves.

The Old London Street retained from last year, must not detain us, though full of interest, and we will pass on to the South Central Gallery, with its first half devoted to philosophical instruments and apparatus. Messrs. Ross and Co., of New Bond Street, had an admirable exhibit of their world-famed microscopes, telescopes, and photographic lenses. Their telescopes are superb, and some of the microscopes wonderful, not only on account of their strength, but because of their exceedingly reasonable prices. A new microscope, called "the Star," was shown by Messrs. R. and J. Beck, and won the gold medal. It is thoroughly suited for the student's work in physiology and the laboratory, for the botanist, and for the medical man, as well as for the amateur. It is constructed in the cheapest and yet most durable manner, and costs only 3*l.* 3*s.* altogether, the lowest price ever offered for so splendid an instrument. A very clever invention was that shown by Mr. Moritz Immisch, at Stand 2,178. It looked like a very pretty little silver watch, but is in reality a remarkably accurate thermometer, marking within a fraction of a degree Fahrenheit the ordinary temperature. It is so small that it can be suspended to the watch chain as a charm. Almost immediately opposite this exhibit was to be seen a very pretty innovation in the stereoscope. It was shown by Mr. J. Lyons, and consisted of a capital stereoscope mounted on a stand, behind which is a lamp so arranged as to illumine the picture, while in front a series of coloured slides can be passed in order to give the effects of moonlight and sunset in a very charming and picturesque manner.

Of the many different kinds of photographic apparatus exhibited by the various makers it is unnecessary to speak. But to some of the different styles of photography as exemplified by the specimens exhibited a few words of special notice may be given with advantage. There was Mr. Van der Weyde's little gallery of beautiful photographs, with that soft and effective toning which is so peculiarly his own. One of these pictures—a photograph of three little girls, so exquisitely posed that one wonders what can be the secret of his success—was greatly admired by all visitors. Hanging over the exhibits was a large reflector, containing an electric lamp, which showed how in

Mr. Van der Weyde's studio the artificial light is arranged. Then there was a very interesting collection of old photographic pictures, processes, and apparatus, illustrative of the history and progress of photography, which was lent by the Photographic Society of Great Britain. Some of the quaint old pictures in this case, and the primitive descriptions of cameras and lenses, were in strange contrast to the splendid photographs exhibited close by from the studios of our modern photographers. The Woodbury Permanent Photographic Printing Company showed some examples of Woodbury type and carbon processes, illustrating the connection between the two. It may easily be seen how it is that the Woodbury types can be printed cheaply in large numbers where it is impossible to use the ordinary photographic process. In the same court there were several other exhibits worth seeing, mixed up though they were with a miscellaneous collection of less interesting things. First and foremost was the show of diamonds and precious stones exhibited by Messrs. Hancocks and Co. Round this little glass show-room and workshop (for the working goldsmiths were there on view) there was always a crowd of admiring ladies, feasting their eyes upon the costly jewels, which represented a value of hundreds of thousands of pounds. There was also a wonderful calculating machine (Tate's arithomometer), which will multiply eight figures by eight figures in fifteen seconds, and work out square roots and decimals in the most accommodating way. It works with great smoothness, and, as regards strength of parts, it appears to be vastly superior to the French machine, upon which Mr. Tate has confessedly improved.

Let us now take a retrospective review of the West Gallery which flanked the Aquarium, and the West Arcade, and was devoted to the exhibition of textile fabrics. The last named represented a most important branch of British manufacture, including as it did woollen and cotton goods, linen and worsted, hosiery and carpets; but it can hardly be said that this department detained many visitors. The West Gallery, however, was always attractive, as it was full of machinery in motion, which never fails to draw, performing as it did a variety of work in miscellaneous branches of manufacture. Among the most interesting exhibits were those of Messrs. Mather and Platt. One of these was a sampling machine for making combinations of colours and designs on short lengths of cloth to show effects; also a continuous bleaching machine for use in Thompson's bleaching

process, to supersede the chloring operation, as hitherto practised, and a soaping and washing machine for cleansing printed cloth from the gums and thickening used in printing colours. Messrs. J. Farmer and Sons showed a creasing and measuring machine, a universal calendar, upon which the following finishes can be produced, viz., chasing, frictioning or glazing, swizzing, embossing, and Moiré lustre; an apparatus for washing, bleaching, scouring, soaping, and dyeing woven fabrics; and a model of machinery for treating town refuse. Messrs. Lawson and Sons showed an automatic spinner for rope-yarn. Messrs. Watson and Laidlaw had centrifugal hydro-extractors, apparatus for bleaching sugars and other granular substances, and details of machinery. Mr. George Daughters showed a double-action hair-carder, for carding curled hair, old hair, and fibres, without breaking. Mr. Thomas Thorpe exhibited a doubling machine, with upright spindles and stop motion, for running two threads together without twisting on to spools or bobbins, and a winding machine with upright spindles and damping apparatus for winding from hank on to spools and bobbins. At the top of the row, Messrs. John Bell and Son showed the act of spinning asbestos fibre by itself without mixture of any other material. An interesting exhibit was a contrast, by two models, between a loom with the last improvements and one of fifty years ago. Messrs. Treloar and Sons showed a machine for making coir plaits for door-mats; and Messrs. Ransome were to the fore again w th their celebrated cask-making machinery. Messrs. Powis and Co. exhibited a universal joiner, and tools for manufacture of gun-stocks, banister rails, &c., and a model of a steam navvy; also tools for working and polishing stone, wood-block flooring and paving, wood working, and tree-felling machinery. The manufacture of cigars and cigarettes by machinery was shown in the southern end of the gallery, where Messrs. Sales, Pollard, and Co., of Farringdon Road, always attracted a large crowd of visitors. There is no firm in the United Kingdom which produces better manufactured tobacco, cigars, cigarettes, and snuffs than this old-established house, which the Executive did wisely to bring forward on this occasion, as it did at the "Healtheries." Amid some of the most modern and most intricate of appliances, a Welsh firm had mounted a very showy canopy of many-coloured wools, with a Welsh woman in the costume of her nation, with the traditional, but now seldom seen, tall hat, seated at her spinning-wheel. There was a very

odd appearance of primitive simplicity in this "exhibit" which formed a great attraction.

The Western Annexe was devoted to hydraulic machinery, hydraulic pressure being now used instead of the steam hammer for forging wrought-iron, also for rivetting and working heavy guns, for discharging and loading merchant steamers, and working lifts, dock gates, cranes, and swing bridges.

We will now pass over to the East Gallery, which corresponds in a rough way on the east side of the Exhibition to the West Gallery which we have just glanced at. The chief attractions of the East Gallery were the exhibits of printing and other work connected with literary matter. There were machines for printing, folding, cutting, and stitching paper, lithographic stones, and processes employed in lithography and photo-lithography; also copying apparatus, paper, and the raw materials from which it is produced. At the south end of the Gallery were two highly interesting exhibits. The first was a four-coloured rotary lithographic machine, shown by Mr. W. J. Ingram, of the "Illustrated London News." The second was shown by the proprietors of the "Graphic," and illustrated improvements in printing machinery, and the various processes involved in the whole method of producing a high class illustrated newspaper. There is no better work done in London or elsewhere than that executed by the "Graphic," in all its departments.

The East Annexe next to the Gallery was devoted to food and cooking exhibits; but as these were to a great extent covered by the Exhibition of last year, it is not necessary to enter into details concerning them. Here were shown all kinds of flour mills; machinery; apparatus for refining sugar; methods of preserving animal and vegetable food; bread and biscuit-making machines; brewing, distilling and wine-making; aërated waters; apparatus used in preparing tea, coffee, chocolate, &c.; while the Long Arcade at the extreme east side of the Exhibition was devoted to exhibits connected with lighting by oil, candles, gas, and electricity, and also cooking apparatus in great variety.

Here it will be well to say a few words in reference to the Foreign Courts, which occupied the central buildings of the Exhibition, between the two lower lakes. Russia showed a cigarette manufactory, musical instruments, furs, leather, furniture, a ventilator which takes the form of a portable candelabra, and cheap and simple electric light for houses. The exhibits also included a hydraulic apparatus for elevating and depressing guns; light-

house lanterns, sent by the Ministry of Marine; an electric passenger-and-guard signal; an apparatus for lifting curtains; photographs taken by artificial light; a new air engine, universal cement, sanitary appliances, oil-cloths, cutlery, pipes, sugar produced by an improved process, a snow plough, travelling bags, &c. Perhaps the most interesting exhibit in the Court was a collection of articles from the Caucasus, comprising furniture, dresses, silver belts, musical instruments, and arms. At the entrance to the Russian Court, Messrs. Howell and James made a display of richly-embroidered Roumanian costumes.

Japan made a grand display of vases, screens, boxes, and other odds and ends, illustrating the inimitable art work for which its people are celebrated; and Siam showed some splendid metal work. China, which at the two former Exhibitions proved so attractive, was hardly up to its former standard, but it showed four shops from Pekin, with the fronts beautifully carved, and a restaurant and tea-house, with a verandah. There were also collections of bows, arrows, swords, spears, musical instruments, samples of silks, Chinese books, and all articles for which the Celestial Empire is famous.

The American Court contained an Exhibition in itself, in the display of the Waltham Watch Company, with a number of hands carrying out the work of watchmaking. Few persons realise how many distinct operations are required to produce a single watch: 1,500 machines and tools and 3,746 operations is the startling total. The aim of the Waltham Watch Company is to secure actual interchangeability of pieces. It may be too much to say that the corresponding parts of all their watches are identically alike, but they will come within one ten-thousandth of an inch of it. Each hairspring belongs to its own balance, and each balance to its own watch, but they do not meet each other till the watch is done. By the aid of this delicate gauge the watch is already regulated before being put together. To show how greatly raw material can be enhanced in value by skill, it is worth mentioning that, out of 1lb. (troy) of fine steel wire, worth from 11*s.*, may be made 17,280 hair springs, worth 1,450*l.* at wholesale prices. As will be obvious, a number of female operatives are employed in the factory, by reason of their greater delicacy and rapidity of manipulation; and it is a notable fact that the women, when they do the same kind and amount of work, are paid the same wages as the men. The skilled operatives make from 30*s.* to 3*l.* per week.

Various other American manufactures were illustrated, and ingenious machines of all kinds, for envelope folding, for cutting lines in wood engravings, for printing, cutting, and stringing labels, and for brushmaking. The sections of an aërial ship were shown by Mr. Cameron, of New York; and Mr. Delany, of that city, exhibited his system of multiplex telegraphy, by which as many as six messages may be sent simultaneously over one trunk line at the rate of 40 words per minute.

Austria-Hungary had assigned to it what was known in 1884 as the "Water Pavilion." The Cupid-guarded fountain was bubbling away as before; but otherwise a striking transformation had been wrought. The signs of art, brilliancy, and luxury were everywhere, and made a Ladies' Court *par excellence*. In the inner circle representatives of the Viennese house of Wahliss arranged a splendid display of ceramics. The china was made in Bohemia, and hand-painted in Vienna. The vases, the lamps, the candelabra, the clocks were all superb. Here was a dinner and tea-service made for the Crown Prince of Austria. The plates were ivory white, with a rim of dark-blue enamel, embossed with a delicate tracing of gold, and carried a golden crown and the Royal monogram in the centre. In form the teacups (of Bohemian china) were a reproduction of antique Vienna goblets. On the outside was a broad band of blue and gold similar to the rim of the plates; while the inside and handle were covered with gold. The cost of the set has been given as about 200*l*. The imitation Vienna porcelain plaques bearing copies of the old masters were admirable. In the outer circle there were excellent marble mosaics and parquets. Alongside of a brilliant toilet set were a couple of beautiful *bric-à-brac* cabinets, in the best of taste. The bentwood furniture was very noticeable. The wood is of a single piece, being only bent. The reclining chairs were terribly tempting to the visitor who had duly "done" the Exhibition. At a stall next the exit to the pavilion was shown a new fabric, "Patent Spongia Lignine," which had a soft, mossy, velvety appearance. It is not only available for purposes of ornamentation, but is serviceable for chest preservers, boot soles, &c.

Turning our steps northwards, we must very quickly pass through the two quadrants or arcades which connect the Exhibition buildings with the conservatory at the back of the Albert Hall. Indeed, as our space is limited, we can only mention by name the exhibits there, which included (in the Western

Quadrant) cutlery and tools, pottery and glass, and dynamo-engines, and (in the Eastern) specimens of textile manufacture, leather, and a collection of toys and games. Above the Western Quadrant an expensive but most excellent dinner was served, which became very popular among fashionable people.

We now come to the Music Division (II) of the Exhibition.

The Great Central Gallery (to the immediate north of which are the gardens) held a magnificent display of organs, harmoniums, pianos, violins, and other instruments, together with illustrations of various mechanical contrivances in their manufacture, and of several curious suggestions and fancies which inventors have produced. All the well-known makers of organs, pianos, and other instruments were fully represented, but here again we have not space to enter into a detailed account of the multitude of exhibits. The almost priceless loan collection, however, of Ancient Musical Instruments was so particularly interesting that we must enter into a fuller description of it. It was on view in the gallery of the Royal Albert Hall. A splendid collection of instruments of the violin family, including the "Helier" Stradivarius, the "King" Amati, and a most valuable assemblage of violins, &c., by the old Italian, English, Dutch, and German makers were got together. From all over Europe interesting musical instruments were collected, including the Patavini spinet of 1550, almost the oldest of its kind yet existing; the "Piano Brisé" of Marius, dated 1709, one of the three still extant; Handel's portable clavichord, a "Regal" or pitch pipe organ; the "Skene" bagpipes, once the property of Prince Charles Edward Stuart; the virginal by Leversedge, dated 1666, painted with views of St. James's Park, and said to have once belonged to Nell Gwynne; the harpsichord (1773) by Shudi and Broadwood, once the property of the Empress Maria Theresa; the lute left by Queen Elizabeth in 1584 at Helmingham Hall, and still in the possession of the Tollemache family; the silver kettledrums with bannerets from St. James's Palace; Her Majesty the Queen's grand piano by Erard, adorned with paintings by Vernis Martin from a harpsichord which belonged to Anne of Austria; Dragonetti's "basso di camera" bequeathed to the late Prince Consort; Handel's double harpsichord, by Hans Ruckers (1612), from the Queen's Collection at Windsor Castle; the bronze horn, used at ceremonials by the Corporation of Dover for the past six centuries; the famous "rock harmonium" of 1785; the trumpet which sounded the grand charge

at the battle of Salamanca; and several harpsichords, virginals, dulcimers, and other predecessors of the modern piano. An Elizabethan room was arranged by Mr. George Donaldson to give some idea of an apartment in the days of the Good Queen Bess, on the walls of which were hung sixteenth-century Flemish tapestry. Two antique coffers, two old-fashioned carved chairs, and other articles of Elizabethan furniture, were to be found here. The musical instruments comprised a "chitarnone," or double-necked lute; an Italian guitar, such as the courtiers of the period were wont to tinkle; a Venetian theorbolute, and the beautiful instrument said to be Queen Elizabeth's own virginal (lent by the Rev. Nigel Gresley), at any rate, one upon which the Virgin Queen is popularly supposed to have played. Another interesting instrument was the lute upon which tradition says David Rizzio played in the boudoir of the hapless Mary Queen of Scots. It is certainly of sixteenth-century manufacture, although its direct connection with Rizzio may be doubtful. It is in tortoiseshell, with pegs in the form of the *fleurs-de-lys*, and the French arms are stamped on the red leather case. The citerna exhibited was by Joachim Tielke, of Hamburg, and is dated 1676. But the citerna itself is a far older instrument, and a player upon it occupies the first niche in the famous front of the Minstrels' Gallery at Exeter Cathedral, dating back to the fourteenth century. The cistre of Antonio Stradivarius, dated 1700, sent by M. D. Alard, of the Paris Conservatoire, was also among the exhibits. Two Italian "pochettes" were shown in Mr. Donaldson's case, but the one with an angel's head of ivory was dated 1675. The harp, known as the "Lamont Harp," was lent by Mr. C. Durrant Steuart, of Dalguise. Gunn, who wrote 80 years ago, tells us that a lady of the Clan Lamont, in Argyle, took with her, on her marriage in 1460, to Robertson of Lude, the instrument which had been for several centuries the harp of a succession of Highland bards. The lassie must have been of robust frame and determined mind to carry this ponderous instrument. The singing trumpet used in the parish church of East Leake, Nottinghamshire, during Divine service till about 1840, and the arch lute in ivory, by Giovanni Krebar, of Padua, dated 1629, were very interesting exhibits.

The choral competitions were a happy thought in connection with the Music Division. A large number of choral societies from all parts of the country competed for handsome money

prizes, the most valuable of which was 100*l.*, and the awards of the judges, as a rule, were endorsed by the popular verdicts.

It is not necessary to enlarge on the outdoor music which was most liberally provided and fully appreciated as heretofore. The engagement of the celebrated Strauss Band from Vienna was a special feature.

Another feature of the Exhibition was the daily illumination of the gardens with thousands of electric lights, in place of the "Vauxhall" lamps of the two previous seasons. The new system was most effective, and the instantaneous blaze of light was received each evening with great acclamation; while the illuminated fountain display was still further improved on by Sir Francis Bolton, and many distinguished persons played a keyboard which regulated the nightly performance.

Looking at the Exhibition as a whole, it was certainly a great success, and, though the exhibits were not as a rule so attractive to the masses as those of the "Fisheries" and "Healtheries," a great treat was provided in all departments for those of a scientific and inventive turn of mind; while the sources of instruction for those who sought it in various branches of science were almost infinite.

The literature of the Exhibition was limited when compared with that of its predecessors, there being no "Official Handbooks" on various subjects. These were to some extent compensated for by long "Prefaces" to many of the "Groups" by well known writers in the catalogue, which was an admirable production. As before, the Literary Department was under the supervision of Mr. A. J. R. Trendell.

The Exhibition was opened by the Prince of Wales, but without any great ceremonial, on the 4th of May, and remained open till the 9th of November. During that time it was entered by no fewer than 3,760,581 visitors, making a daily average of 23,071. These figures show somewhat of a falling off from those of the Health Exhibition, which were 4,167,683.

J. J. Manley, M.A.

THE GROWTH OF ENGLISH PASTIMES.

No one who is gifted with any powers of observation can have failed to remark a considerable increase in the interest taken in certain of our national pastimes. And the increase to which we refer is not of a kind which requires to be proved or fortified by statistics. It is palpable, obvious, and unmistakable. It forces itself upon our notice in the course of our goings to and fro. We find it illustrated in the newspapers, which are in this as in other respects a perfect reflex of the national life. It is the subject of everyday talk, and is, indeed, of such a kind that it cannot possibly be ignored. Of many sports it must be admitted that the growth, if it exists, is not by any means clear. They are popular, we know, but they do not impress us as being any more so than they have always been. They retain, what they have always had, a large number of adherents, attracted to them by personal predilection or by class habit, by physical capacity, or by some other influencing circumstance. In regard to these particular sports, the public specially interested seems, in proportion to the population, no larger than it formerly was. The pastimes in question simply maintain the position which they have always held in the affections of the people.

We may take, for example, the purely athletic sports—sports which are patronised solely for the sake of the physical exercise they supply. These have their supporters as of yore. Young men still walk, and run, and jump, and box, and wrestle, and, in Scotland, throwing the hammer is still in practice among the muscular sons of Caledonia. It is still to be met with at the country fairs, and there is no reason to suppose that it will ever cease to have its votaries. Wrestling was never very widely prevalent, but it still has its disciples here and there, and it would no doubt be in greater vogue if it were not so dangerous a diversion. It is almost too violent an exertion to be altogether a pastime, as most people understand the word. Boxing, it may safely be said, stands where it did; and, if one could depend upon its being carried on invariably with fairness and good temper, one would be inclined to regret that it does not make its way more amongst the people. Were it confined to "self-defence," the art might have some claim to be called "noble;" and it would certainly be, on occasions, of very great utility. Running

and walking matches are indulged in freely by amateurs, and they have many professional devotees. The attractiveness of such matches may be less than it was, but, on the whole, it would seem that a well-arranged "event" of the kind is certain of a number of enthusiastic spectators.

In the matter of field-sports the same rule obtains. Hunting and coursing, we may take for granted, are as acceptable as ever to the classes to which they particularly appeal. It may be expected that, in time, the farmers will rebel more than they do now against the damage inflicted on their land—damage for which the recompense offered is never altogether adequate. But, meanwhile, the "meet" is as popular as of old. The democratic, or, rather, the shopocratic, element has entered into it largely, and that may eventually diminish its prestige, thus tending to injure hunting as a pastime; but, for the moment, following the hounds appears to be an occupation of which the glamour will not readily die away. The position of master of the hounds is still coveted and regarded as an honour, and, in most cases, the various districts are being well and thoroughly hunted. Coursing certainly maintains its old position. It has not a very large *clientèle*, but it keeps it intact. It is not a sport with which the majority of the public sympathise, and if it ever disappears there will be many to rejoice at its disappearance.

Coaching is a pastime of which the delights seem never to expire. Endless as are the ramifications of the railways, and numerous as are their admitted conveniences, it is felt that the old-fashioned mode of locomotion has still its charms, especially when the coaches and the horses are of the best, and when the guests have been happily selected. "Il n'est jamais de mal en bon compagnie," and, under such circumstances, it is not the "iron horse" that is chosen to take jovial parties down to Epsom or to Ascot. A modern versifier, celebrating the latter meeting, speaks of

> The homeward drive that came too soon
> By "parks and lodges" bright with June,

and no doubt the coach has many laureates of its own. The precise amount of use accorded to it may vary with the times, but it can scarcely fail always to have a considerable phalanx of steady supporters.

Among other pastimes which continue to maintain their popularity are golf and archery. The former is almost exclusively Scottish in *locale*, though why it should not be a favourite in

England it is difficult to see. No doubt Scotland is blessed with long lines of "links," bordering the sea shore, and affording not only the most healthy of "runs," but, as a rule, the most charming of views. No doubt Scotland is both the mother and the nurse of the game, concerning which, it will be remembered, Mr. Andrew Lang has penned a characteristic "ballade," telling how

> I hae play'd in the frost and the thaw,
> I hae play'd since the year thirty-three,
> I hae play'd in the rain and the snaw,
> And I trust I may play till I dee.

But England, too, has her long lines of green turf, with as many ups and downs as could be desired, and as many agreeable prospects from them; and it does seem singular that the sport has not been successfully transplanted to the South. It is very interesting, and it is an excuse for much healthful walking. The same may be said for archery, with the additional recommendation that it is especially adapted for ladies. But, so far as can be gathered, archery makes no appreciable advance in the good graces of the general public. It does not attract either many devotees or many spectators. It is not, perhaps, a pastime for paterfamiliases. Haynes Bayly makes a matron say :—

> They've made my poor husband an archer elect;
> He dresses the part with prodigious effect,
> A pair of nankeens, with a belt round his waist,
> And a quiver, of course, in which arrows are placed:
> And a bow in his hand—Oh! he looks of all things
> Like a corpulent Cupid bereft of his wings.

Nevertheless, to those who have good figures archery may be heartily recommended. It is not an exciting sport, but it is, or ought to be, eminently picturesque, and it takes for granted a certain measure of skill. It will probably never attract much "gate-money;" its prestige with the people is so slight—its incidents are so unexciting. But it ought to find more recruits than it does among the youth of the middle and the upper classes.

Shooting is a sport of which the popularity will never die in England so long as there is an Englishman left in the country. It is, of course, mainly an aristocratic diversion, not because a gun is beyond the pecuniary resources of other classes, but because it is chiefly the well-to-do who can secure opportunities for practice. Of shooting, as part of Volunteer routine, there is, of course, daily more and more, as the ranks of our citizen army are extended. But shooting as a pastime must always be con-

fined more or less to those who can afford to go to the moors either for "The Twelfth" or for "The First"—*i.e.*, for the grouse or for the partridges. These two dates continue, as of old, to exercise a powerful influence over the movements of the fashionable world. The closing of Parliament may be said to be regulated by them, and they certainly mark the conclusion of the London gaieties. The versifier just quoted represents a society dame as bitterly lamenting the approach of the shooting season. "Don't talk," she says—

> Don't talk of September! A lady
> Must think it of all months the worst
> The men are preparing already
> To take themselves off on the First.
> Last month, their attention to quicken,
> A supper, I knew, was the thing,
> But now, from my turkey and chicken,
> They're tempted by birds on the wing!
> They shoulder their terrible rifles
> (It's really too much for my nerves!)
> And, slighting my sweets and my trifles,
> Prefer my Lord Harry's preserves!

The lament is as frequent and as poignant now as then. There may be no obvious increase in the number of men who, every autumn, crowd into the northward trains, *en route* for Highland heather; but at least there is no diminution of that number. Year after year the same invasion takes place, save when temporary financial depression reduces the amount of moorland let for the purposes of the sportsman.

We come, finally, to the pastimes associated with the sea or with rivers—yachting and rowing, and fishing, and skating, and curling, and swimming—sports whose popularity, it need scarcely be said, is thoroughly maintained. The first named, like shooting, must always be chiefly a privilege of the wealthy, but, in the case of the others, the possibilities are by no means limited. The love of aquatic sports will probably grow, though not perhaps very perceptibly; it is already so widely spread that it is difficult to understand how it can increase very markedly. Wherever there is a stream with a mile or so of navigable water, there, you may be sure, is a boat club; in some cases there are more than one. Every public school has its club; and there is scarcely any occasion even to refer to the overwhelming interest taken in the inter-University race—an interest which, if it does not imply a universal love of boating, certainly does imply a universal love of trials of strength and skill:—

Ay, and the winners that day, whether light blue win it or dark blue,
Seldom hereafter in life glory supremer shall know !

Fishing is only for the people of placid temperament and non-susceptibility to rheumatism. It seems an art easy to acquire ; but one or two attempts convince the greenhorn of his folly, and the pursuit is left in the end to the favoured few who have managed to master its mysteries. There are, of course, sea-fishing and river-fishing ; the latter being, naturally, the more common of the two, though, if the pollution of rivers continues at its present rate of progress, anglers will be driven to enjoy their pastime very far up stream. Skating and curling are, of necessity, pleasures which require, for safety, a certain thickness of ice, and they are not, therefore, sports in which the Briton has now-a-days much chance of excelling. An Englishman occasionally gets an opportunity of skating, but curling is virtually confined to the Scotch streams, and even on these is not so frequent as its admirers could desire. Possibly, if our climate goes on mellowing in its present fashion, curling will disappear altogether, and skating will be even rarer than it is. Swimming is fairly popular, but not so much so as it might be, and as we would like it to be. It is not only an exercise which gives gratification, but an art which may at any moment be utilised for the saving of life. It is, indeed, astonishing that, in a maritime nation like ours, the accomplishment should not be more universal than it is. Swimming-baths exist in many towns, but the percentage of swimmers in the entire population must be small indeed. Day after day in the summer there are boat accidents which terminate fatally, because the victims, we read, "were unable to swim." This, then, is a pastime, the growth of which would be welcomed with special satisfaction, not only because it is health-giving, but because it tends to preserve to England many valuable lives.

We now arrive at the pastimes the increased interest in which is, as we have said, palpable, obvious, and unmistakeable.

And first among these must unhesitatingly be placed that most popular of all English games—cricket. It might be thought that this form of pastime could scarcely grow in popularity ; it has always been so great a favourite with Englishmen. Since the days when Hood told how "four-and-twenty happy boys came bounding out of school," and described how

To a level mead they came
And drave the wickets in,

cricket has gone on rising in public favour. Always the most loved of English sports, it is so still, but it is so in a continually increasing degree. The evidence of its extraordinary vogue is all around us and ready to our hand. County cricket, of course, remains, in extent, very much what it was. It could in the nature of things scarcely spread, for the number of available counties is limited; but if the game has declined at all in one or two shires, it has made unlooked-for way in others. The counties which in our young days were at the top of the tree, or, shall we say, at the head of the score, are not there now; others have usurped their place. But the interest taken in county cricket is much greater than it was. The competition between the shires is keen, and strenuous efforts are made to maintain or obtain the mastery, as the case may be. The county clubs are for the most part heartily supported both by subscribers and by the general public. It is, indeed, in this patronage by the public that the growth of the pastime is most strikingly evinced. One has only to attend a county match in order to understand how firm a place the game has in the hearts of the people. The matches between the Universities or between Eton and Harrow would hardly be cases in point, because these events are features of the London season, and are therefore liberally attended. It is impossible, in regard to these matches, to say how many of the spectators have come for the cricket and how many for the excitement of the "outing." Neither match, therefore, is in this respect a very trustworthy criterion.

But be present at a contest between two counties—between Notts and Lancashire, for instance. That will be an experience indeed. The match will be a fruitful topic of conversation beforehand. The walls will be covered with bills announcing it. On the day itself thousands will crowd down to the county ground; the spectators will be as thickly placed as leaves in Vallambrosa; and the game will be watched with breathless interest, each bit of bowling, batting, or fielding being followed, criticised, and applauded when thought deserving of the recognition. It is astonishing to see how thoroughly the onlookers enter into the game—how concerned they are for the fame of their own county, and how appreciative they are of the play of its opponents. For the nonce, every spectator, old or young, is an ardent and excited cricketer. A first-class county match is a most exhilarating function; it has all the dignity of a local event, and, for the moment, you would think that the fate of nations was trembling

in the balance. The outcome of it is, for the local people, the source of the wildest joy or of the profoundest depression. It is discussed universally and volubly, and, at the end of the season, the county gains and losses, averages, and what not, are the subject of almost endless comment. All male persons, old and young, and a good many of the fairer sex, seem to have their happiness bound up in the annual show achieved by their county eleven. The local paper makes it the topic of more or less grave inquiry, and distributes praise or censure accordingly. There are, indeed, few better proofs of the growing acceptance of cricket than the attention which is paid to it by the press. Various journals in each district are certain to devote much space to the pastime, and you may be sure that these are the journals which have the largest circulation and the greatest influence in the locality. No daily paper, in truth, can hope for an adequate *clientèle* which does not in some way or other recognise the general fondness for cricket. And the result is that cricket reporting is, now-a-days, quite an elaborate affair, quite an industry in itself.

And the popular interest in cricket is by no means confined to the various localities. All over the country the result of a big match is awaited with almost feverish anxiety. The progress of the contest is telegraphed from one end of the land to the other, and the gradual accumulation of the score is followed by thousands in all the great centres of population. This applies not only to such events as the University, and public school, and county matches, but to all contests of any exceptional importance. These are eagerly looked forward to, constantly canvassed, and, we fear, largely betted upon. It is remarkable how universal is the knowledge of all that relates to the pastime. That knowledge is common to the boy and his father, the lad and his master, the rich and the poor, the old and the young. It would seem that no one who has once interested himself in cricket ever altogether loses his feeling for it. The elders compare the present with the past; the juniors, as is natural, are absorbed in the present, and regard only so much of the past as concerns their living heroes. And so both are attracted by the doings of the cricket-world. The names of the heroes change, but the hero-worship remains. Even the ladies are beginning to study cricket more sympathetically and intelligently than they did. Some are beginning to play it; but nothing, of course, will ever make it a feminine pastime. It is too rough and too serious for the gentler and weaker sex.

And this general enthusiasm for cricket shows itself, again, in the multiplication of the number of clubs devoted to the game. In Scotland, it is to be feared, the pastime does not progress. It seems impossible to Scotticise cricket. It is, to be sure, played a good deal in the North, and by some excellent clubs; there are, of course, some excellent Scotch cricketers. But the game does not appear to endear itself to Scotchmen as a body. You do not find it widely spread among them. You do not find a national sentiment in its favour. And this cannot be because the Scottish youth have too few "level meads" to play on. Such "meads" are not numerous with them, but what there are are by no means all or fully utilised. Cricket is comparatively seldom talked about in Scotland, and it is not much patronised; and the fact must be owing to some national idiosyncrasy. How different in England, where there is not a village but has its half dozen little clubs, not a school but has its first and second elevens, not a town but has its hundreds of active cricketers. County cricket is the department of the game which has firmest root in England, and which will do most to preserve its traditions; but the interest in county cricket is undoubtedly fostered by the devotion to the pastime exhibited in every locality, however small.

Allusion has been made to the betting which accompanies cricket as it accompanies every other sport in England. Happily it is not an universal concomitant of the game. A much more serious drawback to the prosperity of cricket is the growth of the professional spirit, fostered, to a large extent, by the tours of the Australians in this country. There must always be professional players, and they must be paid; but the game should be kept as free from monetary influence as possible. If paid cricketers become too numerous, they will bring about the ruin of the pastime to which they devote themselves. There has often been a suspicion that professional players were too susceptible to pecuniary allurements, and, if it got to be seriously believed that they did not always do their best, a fatal blow would be struck at the prestige and popularity of cricket. Cricket ought to be practised for itself alone; once let it be lowered to the standard of a trade, and it will be irreparably injured. Into the morality of the turf the British people has never been disposed to inquire too closely, but, if it had occasion to suspect that cricketers could be tampered with, its faith in them as a class would be severely affected. It is desirable, too,

if the growth of cricket in England is not to be impeded, that the question of what is and what is not fair bowling should be decided once for all. No doubt British common sense will arrive at the decision eventually, but, in the meantime, the cricket-world has seen and still sees dissensions on the subject which are calculated to do harm to the game if they are allowed to continue.

Much of what we have said about cricket might be said also about football, the growth of which has, during recent years, been even greater than that of the former pastime. There was a time, not so very long ago, when cricket was hopelessly ahead of football—when the popularity of the one was infinitely more considerable than of the other. Even those who are not yet middle-aged can remember the period when football was but little played, and when little public interest was felt in it. It had a measure of favour amongst younger boys at schools, but its general *status* was infinitely below that of cricket. Now, the two games may be said to be virtually on a level with each other, the enthusiasm shown for cricket in the summer being transferred to football in the winter. No sooner has the last big cricket match of the season been played than the youth of the nation are all agog for the first match of the football season. The phenomena in the one case are repeated in the other. A high class football match will "draw" as many people as a cricket match. In London only exceptional attractions of this kind bring out the public, but in the midlands and in the north football is as closely studied as its rival, and secures quite as much "gate-money." Intending spectators go down to the ground in shoals; the roads are black with them. Individual football players are as well known and obtain as much attention as individual cricketers, and the leading football clubs throughout the county rank quite as high as the county cricket elevens. There is the same anxiety as to failure or victory, the chances of which form, as in the case of cricket, the staple of familiar conversation. The play is followed with profound attention, seriousness, and delight; and the result of it is, as in the case of cricket, the topic of talk for many a day afterwards, and not only among football players themselves, but in general company: men who no longer play retain to the last their interest in the game.

Every village has a club, and every town has more than one. In the South of England football is not much in vogue; but in the Midlands and the North it is a potential factor in the popular life.

Birmingham, Nottingham, and the Yorkshire and Lancashire towns, are specially notable for their devotion to football and their success in it. In Scotland, too, it is highly esteemed—much more so than cricket. A great deal has yet to be done for the extension of the game on the other side of the Tweed, but, meanwhile, we must not ignore the progress already made. The appreciation and practice of football are growing steadily among the Scotch youth. One of the Glasgow clubs ranks among the most distinguished in the kingdom, and there is every probability that football will, before long, be as universally played and approved as it is in England. It is a pastime which commends itself especially to the Scotch character, made up as that character is so largely of energy and endurance—the two qualities most necessary for success in the game. Football is, indeed, essentially a pursuit of the robust. It is, if the truth may be told, a somewhat brutal game—one which has no pity for the weak, and one in which the weak have no business to take part. It is a game of strength quite as much as, if not more than, a game of skill. It requires not only agility but stamina; capacity to endure any amount of mauling with equanimity and impunity. We do not know that it can be called a whit more dangerous than cricket; how often do we hear of someone being killed or severely injured by a cricket-ball! But accidents in connection with it are not infrequent, nor are they likely to be any fewer so long as the present methods of play are maintained and acted upon. That football is admirable exercise for the strong is unquestionable; and the fact that it has in it a spice of the rough and the dangerous is probably one of the reasons why it is so popular, both with Englishmen and Scotchmen. The present rules may be modified by-and-bye; but, in all likelihood, football will remain a pastime in which vigour and staying power will always be the principal constituents.

We arrive now at two methods of physical diversion which, comparatively recent in origin, have of late years advanced in popularity by leaps and bounds. We refer to cycling and lawn tennis. These, in their way, are as popular as cricket and football. The former has had a very remarkable development. Commencing quite in an humble way, it has expanded into a pursuit which is universal, if not yet very large in its operations. It has had an instant and growing success. It appealed, to begin with, to the adventurous spirit of our youth. Here, too, was a spice of danger. It was not easy to get on to the bicycle; it was

still less easy to keep on it; it was not particularly easy to get off it—voluntarily. Involuntarily many a cyclist came off rapidly, and no doubt these preliminary difficulties endeared the bicycle to many young men of the day. Then in the interests of the less adventurous came the tricycle, with the after development into the sociable. Now both sexes and all classes are successfully catered for. The bicycle is used by men and youths whose nerves are strong enough to enable them to brave its unquestionable dangers, for dangers it has. Going down hill, the bicyclist, if he loses self-command, may quickly come to disaster, and at any time an obstruction in the roadway, unseen or seen too late, may upset the machine. It is one of the drawbacks of the pastime that its pleasures are so largely dependent on the state of the roads. There is, however, the tricycle to fall back upon, and, in that case, accident is practically impossible. Women can use the tricycle as well as men; and that with the two seats, happily named sociable, enables man and wife, brother and sister, to travel comfortably together—save, indeed, when the necessarily heavy machine has to be pushed up hill, which is another drawback of the pastime. The labour we delight in, however, physics pain, and there can be no doubt that cycling is becoming more and more popular every day. Cycling clubs are numerous, and the bicycling interest is now a large and important one. There is one organisation, the members of which are furnished with useful route maps, and are accommodated at certain hostelries on the way at reduced charges. They thus learn which are the best roads to take, and are directed to the best resting-places—a boon of which a large number of cyclists have hastened to take advantage. There are, of course, thousands of cyclists who belong to no club, and ride about simply for their own health and pleasure. And there can be no doubt that cycling is both healthy and pleasurable. It necessitates considerable physical exertion, but the cyclist soon learns how to economise his strength, and it is only the *premier pas qui coûte*. Get over the early drudgery, and you begin to feel how advantageous is the exercise you are obtaining, and how largely you are adding to your knowledge of your native land. The accomplished cyclist can go a long way in a day, and, when he starts off on a holiday tour, the extent of ground he covers is remarkable. In cycling, indeed, we have discovered a new mode of locomotion, and one which is by no means confined to individual purposes. Cycling has been subordinated by many to the

interests of commerce, and many are the firms which send out their parcels by tricycle. Tricycles are used largely instead of carts, especially in the carriage of newspapers from shop to shop. And there is, of course, much room for the expansion of this idea. Bicycles, there is reason to believe, will be utilised by-and-bye in war. The idea is that bicyclists could be sent out as scouts; and both at home and abroad trial has been made of their services in mimic campaigns, with highly satisfactory results. There must, however, be bounds to the utility of cycling in this connection, seeing that for the successful propulsion of a bicycle it is necessary that the road should be a smooth one—a *sine quâ non* which could not always be secured.

Cycling has progressed greatly, and is likely to progress much more; but to the practice of lawn tennis there is sure to be a limit. It may be, and probably will be, revived from time to time; but it can scarcely rank among the more permanent pastimes. Its fate is likely to be similar to that of croquet, which for some years was all the rage, but which is now regarded as virtually played out, lingering only in the more old-fashioned localities. Mr. Cholmondeley Pennell once wrote a species of ode to croquet, beginning—

> Most croquet is cheating,
> Most roquet is folly,
> And yet we know
> Some belles and beaux
> Who fancy it most jolly.

Mr. Frederick Locker, too, has described the game as

> A dainty but difficult sport in its way,

adding—

> Thus I counsel the sage, who to play at it stoops,
> Belabour thy neighbour and spoon through the hoops.

Who would write verses about croquet now? Lawn tennis has taken its place, and will no doubt itself give way, in good time, to a more popular successor. It has the disadvantage of being, in the main, a private pastime. There are lawn-tennis tournaments which, thanks to the fame of a few distinguished players, draw a large number of spectators; but, as a rule, the game is played on private lawns or in semi-private squares, and does not court such publicity as cricket and football challenge and receive. Hence it depends almost wholly on home support. And, virtually, after a certain interval, all games pall upon the home circle. "They have their day, and cease to be"—

the cry for "something new" having gone up, and being more or less promptly answered. It might be different if lawn tennis could be played anywhere, and did not necessitate a certain amount of space, marked out in a certain manner. It would be different, too, if the game had the charm of complication—if it interested largely by its intricacy. But it does not. It is simplicity itself, and is, indeed, so artless in its requirements and combinations as to be almost more suitable for juvenile than for adult attention. There is the least touch of absurdity in the elaboration with which the more earnest of its votaries attire themselves for the game. Lawn tennis has, however, one great merit, and that lies in the fact that it is a pastime in which both sexes can engage. There are too few of such pastimes, and so, on that account alone, it is likely to have a fairly long career. It has grown rapidly up to the present; it remains to be seen how much farther its popularity will extend.

We have not included racing in our brief survey, because, in the first place, the great evil of gambling is involved in it, and because, also, it is scarcely a pastime in the sense in which that word is usually taken. It interests an enormous number of people—more, perhaps, than it ever did before; it absorbs the time and thoughts of thousands; but it is a sport in which comparatively few can actually take part. The games we have described have their armies of players as well as their armies of spectators. Those who are actually occupied in racing must necessarily be only a small class. The true pastimes of a nation are the diversions in which the population personally and actively share—which give exercise to their limbs, and from which they individually derive benefit. With pastimes of that sort Englishmen happily are well supplied, and it is pleasing to reflect that, in the case of the more important of them, the progress has been rapid and sure, the growth quick and certain.

W. Davenport Adams.

THE HOUSING OF THE WORKING CLASSES

In the whole range of what is by a modern and expressive phrase termed "non-contentious legislation," there is probably no subject which has a deeper interest for all who, in any true sense, realise the duties of citizenship, than that of the dwellings of the people. If it is true that a man is known by his companions, it is still more true that the tastes and habits of a man may be very safely predicated from the nature of his surroundings, and his material environment goes very far to determine what manner of person he will be. Education may do much, and religion may do more, to elevate him for the time, but, unless he is removed from the mire once and for all, the higher aims and nobler aspirations resulting from these two forces will be in great danger of being crushed out. Thus if a modern statesman, paraphrasing some well-worn words, said "Let me make the dwellings of the people, and I care not who makes their laws," his would not be far from a true and sound utterance. To live day after day and night after night in rooms, sometimes below ground, sometimes above ground, in which light faintly penetrates and fresh air is well nigh a stranger, enfeebles first the body and then the mind, until at last the whole man is in danger of being dragged down to a very low level. To look forward to the transformation of every city into a Hygeiopolis may be the dream of a social and sanitary reformer, but it is at the lowest estimate the duty of all who have power and place in the legislature of the country to see to it that men are housed with a due regard to the conditions of health, and that the essentials of pure air and pure water are brought within reach even of the poorest. That the two Houses of Parliament have been moving steadily in this direction for the last quarter of a century is one of the most gratifying facts in the history of recent legislation, and although it is quite true that the man himself must be raised and purified before any permanent good can be attained, it is being gradually recognised as a national duty and responsibility to provide that his home shall at least be constructed on principles which will secure to him the elementary conditions essential to the maintenance of life and health. Unhappily, in the past, the members of public bodies who are responsible for the carrying out of existing laws have not unfrequently been

the chief offenders as the landlords of tenements occupied by the poorest of the poor, but at last the day of neglect seems to be over and the sanitary officers are being roused to a sense of their duty. The power entrusted to these officials by virtue of long-standing statutes has always been sufficient to enable them to secure a far higher average of sanitation than obtains in the majority of our densely populated districts, and the object of the latest legislation seems to be rather to provide a ready means of enforcing the statutes already available than to initiate fresh lawmaking of a restrictive or punitive character. When it is remembered that for the last thirty years the subject of the Housing of the Working Classes has been constantly before the public, and that such philanthropic legislators as the Earl of Shaftesbury, Sir Benjamin Hall, Sir Richard Cross, Mr. Torrens, Mr. Locke, and Mr. Kinnaird, have striven to meet the needs of the case by special Acts of Parliament, it is needless to say that the whole matter has been well threshed out, and that the time seems to have now come when what is wanted is a firm hand at the Local Government Board, and a sharp and summary execution of the Acts bearing on the subject rather than any considerable addition to the statute book. As a contribution to the literature of the subject the recently published Report of the Royal Commission appointed by Her Majesty on the 4th of March, 1884, is full of interest, presenting as it does with its accompanying mass of evidence not only a summary of the laws bearing upon the question, but a striking picture, graphic with the hideous realism of fact, of the actual state of a very large section of our population.

The Commission it will be remembered consisted of Sir Charles W. Dilke, Bart., who was at the time of his nomination President of the Local Government Board, as chairman, with the Prince of Wales, Cardinal Manning, the Marquis of Salisbury, Earl Brownlow, Lord Carrington, Mr. J. G. Goschen, M.P., Sir R. A. Cross, G.C.B., M.P., the Bishop of Bedford, the Hon. E. L. Stanley, M.P., Mr. W. T. McCullagh Torrens, M.P., Mr. Henry Broadhurst, M.P., Mr. Jesse Collings, M.P., Mr. George Godwin, F.R.S., and Mr. Samuel Morley, M.P. The instructions given by Her Majesty to the Commissioners left them the widest possible scope, for they were ordered, in simple and comprehensive phrase, to "inquire into the Housing of the Working Classes," and thus no restriction was placed upon their inquiries and investigations. The presence of the Prince

of Wales, at the personal request of his Royal Highness, upon the Commission, gave to it a special interest, and was in itself sufficient to show how deeply the need for investigation had been realised by the country. At a subsequent period the names of Sir George Harrison, Lord Provost of Edinburgh, and Mr. Edmund Dwyer Gray, M.P., of Dublin, were added to the Commission in order that the capitals of Scotland and Ireland might be more effectually dealt with. The majority of the meetings of the Commissioners were held in London, but they visited and took evidence in other places, and called to their side men who, like Lord Shaftesbury and some of the East End clergy, were by long experience painfully familiar with the evils resulting from overcrowding.

Dealing first with the actual condition of the houses of the working population of London, the evidence contains some revelations which are calculated to startle even the least thoughtful and least philanthropic. In some parts of London the congestion is proved to be so great, that, as one witness said of the district in St. Pancras lying south of the Euston Road, overcrowding has not increased of late years simply because the district is so full that it could not grow more crowded. A room to a family is in many streets the normal condition of things, and cases are cited where five families to six rooms will be found to be under the mark rather than an exaggeration. In Central London the case is little better. In Clerkenwell the Commissioners found many instances of this single-room tenancy where eight persons formed the occupants, while in Northampton Court nine persons were found in one room. At 5, Bolton Court, a family of ten persons occupied two small rooms; at 36, Bowling Court, six persons lived in an underground kitchen; at 7, New Court, there were eleven persons in two rooms, in which fowls also were kept. In St. Luke's, in the neighbourhood of Old Street, off the City Road, a case is instanced where nine members of a family, five of whom were grown up, were found in a single room, the dimensions of which were 10 feet by 8; and in Lion Row, in the same ill-favoured locality, seven persons were sleeping in a room measuring 12 feet by 6. Even in Holborn, close to one of the chief thoroughfares of the great city, this lamentable state of things was outdone, for in Summer's Court two families were discovered living together in a room 12 feet by 8, and in another slum, strangely entitled "Robin Hood Yard," twelve persons were living in a single chamber. Of the abject

misery in which the poor creatures lie at night, huddled together in hopeless confusion, some idea may be formed from a case in St. Pancras, where at 3, Derry Street, the first floor front room, 13 feet by 12, and only 9 feet in height, was inhabited by a family of nine, with only one bed between them. To this ghastly picture South London makes its dark contribution. In Bermondsey, at 6, King's Arms Place, a washhouse at the back of the premises, measuring 10 feet by 5, was found to be tenanted by a father and mother, two young children, and two elder sons; while in System Place one room was occupied by a man and his wife with four children, the eldest being 16, and a woman lodger and her baby, this strange party living and sleeping in a chamber only 9 feet square. In Spitalfields the average number of occupants in a house of nine rooms in Hanbury Street was seven to a room, and in no room was there more than one bed. Add to this the fact that the houses themselves are as closely packed together as the people, and that pure air is thus very seldom breathed, and we have a lively and terrible picture of the way in which, within a stone's throw of great commercial firms and under the eyes of sanitary officers, vestries, and other public bodies, human beings are to be found literally herded together in a condition considerably worse than that in which "the beasts that perish" are usually kept by their owners.

The "tenement house" may thus be regarded as the chief factor in the mischievous condition of things disclosed by the evidence given before the Commissioners, and some explanation of the term may be desirable. It is in effect the equivalent of an ordinary dwelling-house, erected for the use of single families of the middle and lower middle class, but which has in the majority of instances, like many of its present occupants, "seen better days." In its first state it was supplied with water, sanitary appliances, and cooking arrangements for one family, and even for their needs the accommodation was often found to be lamentably insufficient. Imagine a ten-roomed house of this description let out in apartments to families, any one of which is numerically large enough to require the use of the whole of the closets and kitchens, and it is easy to see why, when disease is rife, it should speedily become epidemic in quarters where such houses are the rule. The description by Mr. G. R. Sims of one of these dwellings in his sadly humorous sketch of the vices of the pawnbroking system, entitled

"Various," gives a graphic idea of a tenement house of the smaller order, and it is obvious that the larger the number of separate families crowded together under the one roof, the greater will be the resultant evil, both physical and moral. In many cases there is no washhouse, no backyard, and in some there is little, if any, ventilation in the rear. The houses are so completely farmed out that they are left to take care of themselves, and the various lodgers are as independent of each other as they would be in separate dwellings. The street doors, where they exist, are rarely shut, and the practice of the unfortunate nomads who prefer to huddle together in the passage rather than to sleep "in the open" on a bench in the Park, has given to those who seek such shelter the name of "happy dossers." Possibly, as far as the merely mechanical arrangements are concerned, the insufficient water supply is the greatest source of mischief in these tenement houses, for apart from the absolute impossibility of any approach to personal cleanliness, the water when left in open vessels, after being carried from the cistern in the yard or basement to the upper rooms, becomes vitiated and altogether unfit for drinking. Little hope is there with such hindrances that the cleansing of the rooms will receive any regular attention, and at times the cutting off of the water, owing to the non-payment of the rates, increases the evil. Worse mischief remains behind, and can be better imagined than described.

Nor does the day-dawn and the procession of toilers and moilers down the stairs to work, or, as it too often is, only to seek for work, always clear the premises, for there is frequently a band of home-stayers who strive to eke out the scanty earnings of the breadwinner by sundry trades of which the Commissioners give an unsavoury list. Rag-picking, with the risk of conveying infection which the foul and overcharged atmosphere is only too likely to render doubly dangerous; sack-making and matchbox making—the latter with the concomitant of keeping a constant supply of warm and fetid paste; rabbit-pulling, with its tendency to coat the lungs with the fluff from the fur; and, last and strangest of all, haddock smoking and curing, the fish stored under the bed during the night being sprinkled in the morning with water from the solitary cistern, in order to give it an appearance of freshness, a compliment also paid to the watercresses sold by the same vendors,—such are some of the occupations carried on in the rooms which by night form the sleeping berths of those who may be only too truly described as "the

great unwashed." When, as is sometimes the case, the rooms thus occupied are underground with the ceiling below the level of the streets, a state of things now prohibited by law but still maintained where the parish officials are lax in putting in force the powers which they possess, the damp and darkness and the absence of ventilation increase the tendency to disease inseparable from life lived under such conditions.

That things are, at last, "on the mend" was the testimony of several of the witnesses, but Lord Shaftesbury, whose lamented death after a long and honoured life spent in the effort to remove these evils, and at least to alleviate the sufferings of the poor people condemned by circumstances thus to live in "cruel habitations," must add strength to his words, told the Commissioners of still recent cases within his own knowledge which are enough to make the reader shudder. Here, for instance, is his Lordship's description of Frying Pan Alley, which within his memory existed in Holborn: "In the first house that I turned into there was a single room; the window was very small, and the light came through the door. I saw a young woman there, and I asked her if she had been there some little time. 'Yes,' she said, 'her husband went out to work and she was obliged to come there to be near his work.' She said, 'I am miserable.' 'What is it?' I asked. 'Look there,' she said, 'at that great hole; the landlord will not mend it. I have every night to sit up and watch, or my husband sits up to watch, because that hole is over a common sewer, and the rats come up, sometimes twenty at a time, and if we did not watch for them they would eat the baby up.'" Lord Shaftesbury gave this as a typical instance of what once was, although he was happily able to add "that could not exist now." In Tyndall's Buildings the Earl said he had witnessed another scene which would seem to be scarcely within the bounds of credibility: "I went into a low cellar, and there I saw what your Lordships will hardly believe. There was not so much wood in it as would make a faggot. There were a woman and two children there, but the striking part of it is, from a hole in the ceiling there came a long, open, wooden pipe, supported by props, and from that flows all the filth of the house above, right through this place where this woman was living, into the common sewer." "Nobody paid the least attention to it," added the Earl; and he proceeded to describe another case which he had personally investigated, where a woman and three children were living in a room, with

boarding upon the floor. When that boarding was removed, the cesspool was exposed to view not one foot below the surface. To say that these things could not happen now is a tribute to the main drainage system, but inasmuch as the pipes are but a few feet below the boarding of the rooms, and sometimes leak or crack, it is obvious that the danger by means of sewer gas may be only one degree removed from that which formerly existed.

When we pass from the conditions of life thus described by a variety of witnesses drawn from all ranks of society to the results, we find that the evils induced affect, in almost equal degree, the three parts of the human system, and that the whole man may be said to be degraded. To begin with, life itself is sacrificed when it is lived in such dwellings as those which even now are catalogued as still existing. The sliding scale of the death-rate from the most healthy up to the most unhealthy houses has about it a grim vindictiveness which forms a triumphant testimony to the usefulness of the much abused science of statistics. In the evidence given by Mr. S. F. Murphy, the medical officer of health for St. Pancras, we have, for example, a direct illustration of the deadliness of overcrowding in badly built and ill-ventilated rooms. In a spot known as Wellington Square, this gentleman stated that the death-rate is 53 per 1000; in the adjacent Derry Street it is 44; while in the more healthy parts of the parish it is as low as 17 per 1000, or, in other words, a man living in Wellington Square has three times the chance of dying which his more fortunate neighbour has, or, to put it in the words of Mr. Godwin, "It is obvious that many thousands of people die every year simply because they live on one side of the way." The medical officer also gave it as his opinion, in reply to the Prince of Wales, that typhus, lung affections, and kindred diseases are induced by such modes of living, and he added the curious but interesting remark, that houses get incorrigibly used up, just as clothes get past repair. What is needed is a supply of unused air, and it is the instinctive knowledge and sense of this want which, as the Commissioners justly remark, makes many of the poor people "recognize that if they are to keep their children well they must keep them in the streets; if they attempt to make them stay indoors the result is sickness of various kinds." As it is impossible to give the same attention to the very young children, we find, as a natural consequence, that the infantile mortality among the poor in over-

crowded neighbourhoods is enormous. Apart, however, from the actual deaths, the chronic sickness and hereditary disease among these little ones is painful to contemplate; and in St. Luke's a variety of ophthalmia, locally known as "the blight," is very prevalent among the young, and is traced to the dark ill-ventilated rooms in which they live, while scrofula and congenital diseases are also frequently met with. But general deterioration is, after all, the worst and most sure result of the overcrowding and impure atmosphere. The people, the Commissioners affirm, get depressed and weary, their stamina is reduced, and consumption and other diseases, superinduced by debility, tend to shortness of life, and reduce the working capacity of the sufferers even while they are still able to stand the daily round of toil.

The subject may also be viewed from another stand-point: How does it affect the mental powers of the children brought up under such influences? On this head Lord Shaftesbury spoke without hesitation as to the evils of what he termed "the one-room system." "In the first place, the one-room system always tends, as far as I have seen, to the one-bed system. If you go into these single rooms you may sometimes find two beds, but you will generally find one bed occupied by the whole family, in many of these cases consisting of father, mother, and son; or of father and daughters; or of brothers and sisters. It is impossible to say how fatal the result of that is. It is totally destructive of all benefit from education. It is a benefit to the children to be absent during the day at school, but when they return to their homes, in one hour they unlearn everything they have acquired during the day." The noble lord doubtless had in his mind the moral as well as the intellectual education of the children when he uttered these words; but the tendency of the evidence of other witnesses is to support the impression that a low state of physical and vital force makes it impossible for the children to gain the full benefit of the education now placed within their reach, and hence that an improvement in their surroundings is demanded on educational no less than on moral grounds. Speaking of the costermongers, one of the School Board visitors examined by the Commissioners said that not only was it very difficult to get their children to school, but it was also difficult to find a school to receive them owing to their ragged and dirty condition, and their sore heads and other kindred complaints.

The moral vice inseparable from overcrowding is the subject of concurrent testimony from a host of witnesses, although it is a happy fact to note, that even under the ghastly conditions set forth in the evidence, many bright cases of virtue are mentioned. The Rev. A. T. Fryer, for instance, in his description of the state of some parts of Clerkenwell, affirms that the tone of morality is higher in London than it is, under similar conditions of overcrowding, in the country; and that where the children are hopelessly degraded it is due rather to the contamination of the streets and the public-houses than to the unsatisfactory surroundings of their homes; or, to put it in Mr. Fryer's own words, "Children certainly grow up with a great deal of knowledge of physical matters, which, perhaps, they ought not to have; but the mere fact of their getting this knowledge—as they get everything else in life, at their own homes—deprives that knowledge of the harmfulness which it would otherwise have." Instancing the case of a girl of twelve or thirteen, who used to assist in her mother's room at trying seasons of sickness, he added that, "This same girl refused to be tubbed before her brothers and sisters; she would never be washed before the others; she had a tremendous sense of personal modesty—although all the common affairs of life were to her upon the same platform." "A child," added this witness, "may know everything about life from its home experience without hurt; but if he or she sees or hears some mischief going on in the streets, or at the corners, or in the picture shops, or at public-house doors, that will fasten on the mind and produce mischief." As to the demoralising influence of constant association with—and even of living near to—people on a very low platform as regards morality, Mr. Fryer expressed a decided opinion that a six months' residence in certain courts would reduce people to the normal level of the colony. The evidence given by several witnesses as to the prevalence of immorality and of vice of the most repulsive kinds among the unfortunate people thus circumstanced, was very strong; but it was so far counterbalanced by brighter experiences, that the final conclusion of the Commissioners on this head is, "While the evidence before them reveals an undoubtedly bad state of things, they find that the standard of morality among the inhabitants of these crowded quarters is higher than might have been expected, looking at the surroundings amid which their lives are passed." This proves at least that even "Horrible London" has its redeeming features, and that there is

enough inherent virtue left in the people to form a hopeful basis for any remedial and ameliorative work which may be taken in hand by the Christian philanthropist.

When the effort is made to trace out the contributory causes of the overcrowding, with all its attendant evils—to answer the question nakedly put by the Commissioners in their Report "Is it the pig that makes the stye, or the stye that makes the pig?" —the opinions of the witnesses naturally differ, but the golden mean reached by Lord Shaftesbury is probably the true answer, when he says: "I have both heard and read remarks that are very injurious to the masses of the people, and likely to prevent any reforms being made on their behalf, to the effect that they are so sunken—so lost—so enamoured of their filth, that nothing on earth can ever rescue them from it. Now, I am certain that a great number of the people who are in that condition have been made so by the condition of the houses in which they live. I have no doubt that if we were to improve the condition of the dwellings there would be a vast number of very bad cases who would continue in the filth in which they began; but I am sure that no small number might be rescued from it by being placed in better circumstances—might have greater enjoyment of health —and might thus be improved in their general condition." Lord Shaftesbury then proceeds to give what he believes to be a typical case of the moral and social declension inseparable from an enforced association with the vicious surroundings of an overcrowded and low neighbourhood. "This is the operation of it: At the time that these alleys that I speak of existed, we have known, from observation and evidence, a number of young people come up to London in search of work. A young artizan in the prime of life, an intelligent active young man, capable of making his 40*s.* or 50*s.* a week, comes up to London; he must have lodgings near his work; he is obliged to take, he and his wife, the first house that he can find; perhaps even in an alley such as I have described. In a very short time, of course, his health is broken down; he himself succumbs, and he either dies or becomes perfectly useless. The wife falls into despair; in vain she tries to keep her house clean; her children increase upon her, and at last she become reckless; and with recklessness comes drinking, immorality, and all the consequences of utter despair. Again, with regard to these tenement houses, I should tell you that many of the immediate occupants in these tenement houses are not exclusively to blame. You go up the rickety

staircase, and you see the filth; but it is not their filth; it is the filth of the family that has just preceded them. I should suppose that there would be 60,000 to 70,000 people in London who seldom remain three months in any one place. I remember the rector of Regent Street, Gordon Square, telling me that "in the whole of his district he did not believe there was a single family that had been there more than three months—they were always on the move. Look what happens! They go into these tenement houses; they remain there a couple of months, or three months; they go out again, and are succeeded by another family; they leave all their filth; nothing is cleared away. The other family come in, deposit their filth, and off they go. It is perfectly impossible for those poor people, with the best intentions, to keep their houses clean. Their hearts are broken, and they have not the means of doing it. They do not know how soon they shall go; they are merely wanderers on the face of the earth. That migratory class is the most difficult one that we have to deal with."

In other words, Lord Shaftesbury, while admitting the truth of the poet's words, "Naturam expellas furcâ tamen usque recurrit," and allowing that there are a certain number of people who, from hereditary bias or other causes, are hopelessly dirty, believes that the great mass of the populace are capable of better things, and that, as the homes in which they live have much to do with the formation of their characters, it is the bounden duty of philanthropists to hold out a friendly hand to them, and of the State to compel the appointed public bodies to protect them from the cruelties of unprincipled landlords and middlemen. Drunkenness may have, as Mr. Horsley holds, much to answer for in regard to their condition; but frequently this is indirectly the result of the miserable homes and of the natural disposition of men who are not absolutely unselfish to escape from them to the public-house.

When, from the existence of overcrowding and the evils connected with it and, to a very large extent, resulting from it, we turn to the causes which contribute to it, and seek the reasons why men and women thus live herded together, one of the first explanations is that lowness of wage, and the difficulty of obtaining anything better than a merely precarious employment, leave a large section of the very poor as little choice in regard to their place of abode as they have in other matters, such as food, clothing, and relaxation. The costermonger and hawker,

with whom continuous toil, early and late, only produces from 10*s.* to 12*s.* a week; the dock labourer with his 5*d.* an hour, averaging from 8*s.* or 9*s.* to 14*s.* a week, the ordinary labourer with his 16*s.* a week, cannot pick and choose; and, as nearness to the work place is the first consideration, he goes to the tenement house, and pays the average rent. From investigations made by Mr. Marchant Williams, one of the Inspectors under the London School Board, whose evidence was among the most valuable tendered to the Commissioners, we find that in Clerkenwell, St. Giles, and St. Marylebone, 88 per cent. of the poorest people pay more than one-fifth of their income in rent. These figures are the result of an enquiry extending over one thousand dwellings, taken at random, in different parts of the metropolis; the average rent paid for a single room by these people being 3*s.* 10¾*d.* a week; for two-roomed tenements 6*s.*; and for a three-roomed tenement, 7*s.* 5¼*d.* Isolated cases show that this estimate is below rather than above the truth; for the evidence gives the addresses of houses in St. Pancras, in which 4*s.* a week was paid for a single room 10 feet by 7; in another house 5*s.* was paid for the same accommodation; and even an underground kitchen commanded a rental of half-a-crown a week. In Spitalfields the average rental for a single room was 4*s.* 6*d.* to 6*s.*, the apartment being unfurnished.

Passing on, in the next place, to the reasons why this apparently exorbitant rental is charged and paid, the answer is that the demand for house room is far in excess of the supply, and the inexorable necessity of being near the work, or on the spot to look after it, prevents migration. Where a movement is made compulsory by demolition, as has been the case of late years in the central district of London, it simply results in the extension of the mischief to the outer ring, where in many cases the erections of the jerry builder, originally intended for people of the "villa class," are let out in tenements, as in North St. Pancras and South Hampstead. This transplanting of slums is a process which is now going forward in several quarters, and in some with far greater rapidity than is always appreciated by the people in the districts to which the extruded masses turn their attention. The "improvements" carried out under the direction of the Metropolitan Board of Works, the erection of School Board schools, and the new streets, have tended to destroy many working men's houses; and, as they are driven further out, they carry with them the ingrained habits which a long

"user" of filthy and unwholesome dwellings has generated. Unfortunately, this innate dirtiness is, according to the Commissioners, almost incurable, and the only hope of reform lies in education; but even when this is supplied, the houses must be altered before any real improvement can take place. Apart from the tendency of the lodgers to neglect sanitary duties, one of the main factors in causing the deplorable condition of the houses to which the evidence points is the greed of the middlemen, who hold long leases of the property, and charge, with but little regard for honesty or humanity, enormous rents. As a case in point, the statement of Lord William Compton as to the profits of a middleman who farms houses on the Clerkenwell Estate of the Marquis of Northampton, is worthy of note. In one house let to this man the weekly rent of the front room was 12*s.*; of the back room, 4*s.* 6*d.*; of the kitchen, 3*s.*; of the first floor, 13*s.*; and of the second floor, 7*s.* These rents, if received with tolerable regularity, amount to nearly 100*l.* a year, and the house jobber pays to the Marquis 20*l.* a year for the whole premises. The agent to the Northampton Estate puts down the probable profit of a middleman at 150 per cent. per annum; and even with all deductions for repairs, and losses from non-payment of rent by the tenants, it is obvious that the gain must still be immense. When it is added that in many cases these middlemen are also members of the vestries in whose hands the application of sanitary laws chiefly rests, it is not difficult to see that there is a constant temptation to them, as landlords, to omit needful repairs, and then, as vestrymen, to refuse to put the law in motion against themselves. Thus, to the avarice of the middleman we have to add the remissness of the local authorities in enforcing the law. According to the evidence given before the Commissioners, these middlemen often command working majorities in the vestries, and especially in the committees which have the authority over sanitary matters. But, beyond this, the appointment of the inspectors of nuisances, whose immediate duty it is to report the existence of unsanitary arrangements, could scarcely be made on a system more directly calculated to defeat the end which they are supposed to have in view. Not only are these inspectors nominated by the vestries, whose servants they become, but they are in no way responsible to the Local Government Board, either as to tenure of office or as to salary. Bearing in mind the strength of the middlemen party on the vestries, it is scarcely to be wondered at if the in-

spectors should show some tenderness in reporting to their masters the existence of evils in houses of which they know those masters to be the owners; and several cases of assault arising out of the enforced inspection of vestrymen's property in London have recently given proof of the disinclination of the owners to be reported upon. The number of inspectors in proportion to the population of the area entrusted to them is, moreover, so inadequate as to reduce their power for good to a minimum. In Islington there is one inspector to 56,000 inhabitants; in St. Pancras, one to 59,000; in Greenwich, one to 65,000; in Bermondsey, one to 86,000; and in Mile End, one to 105,000. Clerkenwell shows an improvement by giving two inspectors and an assistant to a population of 69,000; and St. James's, Westminster, stands out as a favourable exception to the general rule with an inspector to every 9000 of its people. The vestry of Clerkenwell is singled out by the Royal Commissioners as the least satisfactory specimen of the working of the sanitary laws which at present form the only hope of reform; and the conclusion at which they arrive—that the power of the middlemen on the vestry reacting upon the inspectors stands in the relation of cause and effect to the infamous condition of many of the tenement houses in the district—will scarcely be deemed an unfair inference.

In rural districts the Commissioners found signs of improvement in the house accommodation of the labourers, and as a general rule the average rent paid is said to bear a far more satisfactory relation to the wages earned than is the case in London. At the same time no attempt is made to deal exhaustively with this side of the subject, the scope of the Commissioners' enquiries being limited to the chief centres of population.

Looking lastly at the recommendations of the Commissioners, we find that they virtually admit that what is really needed is not so much the enactment of fresh laws as the codification and enforcement of those which are already upon the Statute Book, such as section 35 of the Sanitary Act, 1866, and section 90 of the Public Health Act of 1875. A more careful selection of inspectors is recommended as an essential to any real and lasting reforms, for it almost seems as if the old theory on which men entered on the work of tutors and private schoolmasters, based on the assumption that a man who is fit for nothing else is generally accepted as a teacher, had too often governed the

choice of these officials. One of the sanitary inspectors specially referred to in the evidence adduced before the Commissioners had been, according to the vestry clerk of the parish which employed him, "something in the jewellery trade," and had had no special training for the difficult work which he was called upon to perform. It is sufficiently obvious that when the duty of inspection is in the hands of men thus lacking any special qualifications for the task entrusted to them there can be little hope of effecting the reforms which are so urgently required. Equally needful is it that the parochial medical officers, who are nominated and paid by the vestries, should be resident in the districts entrusted to their care, and should, as the Commissioners suggest, devote the whole of their time to their official work. While, however, the Commissioners thus recognise the value of a complete and effective sanitary inspection, and the necessity of securing the whole time and energy of a qualified medical man to direct the inspectors and to report to the vestries, they fail to point to the necessity for giving to these gentlemen salaries more adequate to the demands made upon them, and bearing a more just relation to the onerous and important duties which they are called upon to perform. At present it is frequently the case that the surveyor draws an income of 1,000*l.* a year, and has opportunities of considerably increasing that amount, while the medical officer's stipend is disgracefully small.

The necessity for a reference to arbitration in cases where the owners of sites absolutely essential to the provision of dwellings for the working classes demand exorbitant prices for their property is pointed out by the Commissioners, while they distinctly realise the moral claim which the people have, especially in cases where their insanitary homes are removed to make way for public improvements, to some protection from the local or imperial authorities. The case may thus be said to resolve itself under two heads: the provision of increased accommodation either to meet the growth of population and the exigencies of work requiring the residence of the workers in special localities, or to supply the place of demolished houses; and the enforcement of the laws of health in all dwellings, and especially in those in which the tenants have too long been left to the mercies of grasping and avaricious landlords and middlemen. It is a hopeful augury for the success of the movement of which the assembling and report of the Royal Commission have supplied

an abundant vindication, that the work is being taken in hand by men of all ranks, from the Prime Minister down to his able colleague, the working man's representative, and by the leaders of all schools of religious thought and activity. If the future of England rests, as it unquestionably does, with the people of England, it is of the first importance that their lives should be passed under the healthiest conditions which are attainable, and it is to be hoped that the sanitary crusade will be steadily promoted on lines which will be at once aggressive as well as progressive, aggressive in a firm and well-delivered attack against property owners who neglect their duty, and progressive in making effectual provision for needs which are more easily met by anticipation than overtaken when they have been allowed to gain headway.

CHARLES MACKESON.

[The "Housing of the Working Classes Act, 1885," 48 & 49 Vict., cap. 72, is simply a contribution to the legislation which will it may be hoped ultimately result from the labours of the Royal Commission. It contains several important provisions, among which may be mentioned the clause enabling one of the Secretaries of State to appoint an arbitrator to hold local enquiries in cases where dwellings are declared to be unfit for habitation, and to decide under which series of Acts—the Artisans' Dwellings Acts, 1868 to 1882, or the Artisans' and Labourers' Dwellings Improvement Acts, 1875 to 1882—proceedings are to be taken. Another valuable clause is that which imposes conditions upon all owners of property on letting houses to the working classes. Under this clause in any contract for letting such houses or parts of such houses for habitation, there is to be implied a condition that the house is, at the commencement of the holding, "in all respects reasonably fit for human habitation." This, it is obvious, must involve some searchings of heart to many landlords, and while it is a most desirable and necessary rule, it will probably have the effect of reducing the number of houses thus let, as the owners, when compelled to put them in repair, will naturally do their utmost to obtain single tenants, instead of letting them on the tenement system. The Act is, throughout, on the right lines, and its exhortation to local authorities "entrusted with the execution of laws relating to public health and local government to put in force from time to time, as occasion may arise, the powers with which they are invested, so as to secure the proper sanitary condition of all premises within the area under the control of such authority," is both timely and wise.]

A CENTURY OF THE COTTON TRADE.

THE cotton trades of America and England, in their organised form, are only the growth of a hundred years; but they have roots far deeper in the soil of antiquity. It is an amazing circumstance, that although the cotton plant is indigenous to Syria and Egypt, its use as a substitute for linen does not appear to have been thought of, and the cotton manufacture was long insulated in India. Cotton clothing is mentioned by Herodotus, Strabo, and Pliny, and cotton is thought by some to be alluded to by Virgil in the Second Georgic. Spain appears first of all European countries in encouraging the cultivation and manufacture of cotton; and this was doubtless owing to the influence of the Mahometan conquerors. It is said that cotton cloth woven on the coast of Guinea, was imported to London from the Bight of Benin in 1590. It may be safely asserted that the tropical countries of Asia, Africa, and America made clothes from cotton long before it was known in Europe. When the passage to India by the Cape of Good Hope was discovered, cotton goods and muslins were brought home. The Dutch and the Italians are also doubtfully said to have had some small home cotton industry. Towards the end of the fifteenth century cotton came to England in the tall ships of the Genoese. At the beginning of the seventeenth century it was imported from Sicily, the Levant, and Lisbon. There are various casual references to the English cotton manufactures in the sixteenth century; but it must be confessed that the word is very loosely applied. A statute of Edward VI, in dealing with woollen manufactures, mentions, among them all, "Manchester, Lankastershire, and Cheshire cottons." Camden also employs the word in the same manner. Captain Robert Hitchcock, the entertaining author of "A Politic Plat," published in 1580, observes: "At Rouen, in France, which is the chiefest vent, he sold our English wares, as Welsh and Manchester cottons, northern kerseys, whites, lead, and tin." This is one of the earliest instances in which the name of Manchester is associated with cotton; and it is half a century earlier than the often-quoted passage in Lewis Roberts's "Treasure of Traffic." From the last named, it appears that Manchester wove linen yarn, which it brought from Ireland, and imported cotton wool from

Cyprus and Smyrna to work into fustians, vermillions, and dimities. The word cotton is from the Arabic *Qutn*, *Qutun*, but it has come to us by the intermediation of the French language.

The influence of the religious refugees from the Netherlands upon the trade of Lancashire can only be surmised—though it must have been considerable. A prosperous home industry sprang up. Every farmhouse, and almost every cottage, had its loom or loom-house; but the product of this primitive industry was a very coarse fabric of cotton weft and linen warp. The demand exceeded the supply; and thus invention was stimulated to quicken production. The inventions of Hargreaves, Kay, Arkwright, Cartwright, and others, led to a prodigious increase of the cotton manufacture, and of course to an enormous increase in the demand for the raw material. A new field of supply was now to open. In 1784, eight bags of cotton were imported from the United States to Liverpool; and a blundering Custom House official detained them—as he was confident that they had not been grown in America. They were consigned to the firm of Messrs. William Rathbone and Son, who for several months were unable to find buyers, and eventually disposed of them to the Strutts of Derby. Since that date the cotton trade of Liverpool has probably been continuous; though in its earlier years it was comparatively insignificant. The year 1784 was not, however, the date when cotton first began to be received in England from America. In 1770 the port of Liverpool received three bales from New York, four bags from Virginia and Maryland, three barrels from North Carolina, and three bags from Georgia. It is, of course, possible, though certainly improbable, that this cotton had first been taken to those States from the British West Indies. The cultivation of the cotton plant was early introduced into what were then English colonies. In 1666 a writer says of the Cape Fear Settlement, that they have "indico, tobacco, very good, and cotton-wool." Dr. Hewitt says that cotton "was not of importance enough to have occupied the whole attention of the colonists" of South Carolina and Georgia. In 1682 it is mentioned that "cotton of the Malta and Cyprus sort grows well in Carolina, and plenty of the seed is sent thither."

Mr. Spalding, of Sapelo Island, near Darien, Georgia, is said to have been one of the first to cultivate the long-staple or Sea Island cotton, growing it in 1787, from seed received from the Bahamas. The upland cotton is the variety produced by the

different climate and culture of Georgia. Thomas Jefferson, in his "Notes on Virginia," written in 1781, says that "during this time we have manufactured within our families the most necessary articles of clothing. Those of cotton will bear some comparison with the same kinds of manufacture in Europe." The state of affairs during the Revolutionary War, and immediately after, led to an increase in the home-making of clothes. The yarn was spun at home, and sent to the nearest weaver. The cotton for spinning was prepared in general by the field labourers, who were all expected to pick 4 lbs. weekly in addition to their other labours. In 1792, the year preceding the introduction of the saw-gin, the cotton exported from the United States was 138,328 lbs., and the amount retained for domestic consumption about five and a half millions. The amount exported in 1794 was 1,601,700 lbs.; in 1795, 5,276,300 lbs.; and in 1800, 17,789,803 lbs. The first cotton mill built in the United States is said to have been that erected at Rhode Island, in 1791, under the management of Samuel Slater, who had been an apprentice of Jedediah Strutt, of Belper. Earlier than this the jennies had been in use for the manufacture of home-spun cloth. The importance of America in relation to the cotton trade has, however, been agricultural, and not manufacturing.

The development of the factory system in England had led to an increase of demand which the old methods of cultivation could not supply. A revolution was effected by the invention of the saw-gin in 1793. The Whitney cotton-gin enabled one farm hand to separate the seed from 300 lbs. of cotton-fibre daily, whilst only 11 lbs. could be accomplished by hand. It came at a moment when the inventions for carding, spinning, and weaving had caused an enormous demand for the raw materials; it decided the future of the agriculture of the Southern States; and it had a marvellous effect upon the industrial condition of England. Who can estimate the results, social and political, that have flowed from the introduction of this single labour-saving machine? In the Southern States the very primitive method of separating the seed with the fingers had been employed. In India beating was the fashion. In Georgia a long bow was fitted with numerous strings, which were set vibrating by the blows of a wooden mallet; and, being held at the same time in contact with a bunch of cotton, thus shook out the seed and dust. About the year 1742, Dubreuil, a wealthy planter of New Orleans, invented a cotton-gin which gave some impetus to cultivation in

Louisiana; but forty years later the importation of Indian cleaning machinery was recommended by the Parisian colonial authorities. Various forms of roller-gins were invented by Borden, Bisset, and others; but they were found to injure the staple, and had, therefore, to be abandoned. Matilda J. Gage, writing in the "North American Review," has claimed the Whitney gin as the invention of a woman. The famous ex-Quaker, General Nathaniel Greene, who had taken his share in the War of the Revolution, settled in Georgia as a planter, but soon died, and his widow, Catherine Littlefield Greene, was left to manage the estate. The difficulty of separating the seed from the pod was a matter of frequent observation and comment; for the entire family joined in the work each evening; and it was often observed that a "fortune would reward whoever could invent a machine to do the work." After a conversation of this character between some guests at her house, Mrs. Greene conceived the idea of such a machine, and entrusted its construction to the hands of Eli Whitney, then boarding with her, and possessed of the usual New England faculty for the use of tools. As the wooden teeth at first tried did not do their work well, Mr. Whitney wished to abandon the machine altogether; but Mrs. Greene, whose faith in ultimate success never wavered, would not consent, and suggested the substitution of wire. "Within ten days from the first conception of Mrs. Greene's ideas, a small model was completed—so perfect in its construction that all subsequent gins have been based upon it." To the very natural query as to why Mrs. Greene did not take out the patent in her own name, the reply is returned, that to "have done so would have exposed her to the ridicule and contumely of her friends, and a loss of position in society, which frowned upon any attempt at outside industry by a woman." It would take too long to record the excitement and litigation which followed the patent granted to Whitney in March, 1794; and the statement as to Mrs. Greene's share of the credit would probably not be accepted without controversy. At the end of 1801 the Legislature of South Carolina purchased the patent right for that State at a cost of 50,000 dols., and threw it open to the public. The manufacture of cotton-gins is now in itself an important industry. We have already mentioned that the Rathbones sold their eight bags of cotton, in 1784, to the Strutts, of Derby. This firm is said to have manufactured the first goods of English make, of which the warp was cotton, in 1773. After

a quantity of these English calicoes had been made, it was discovered that they were subject to double the duty that was charged upon mixed fabrics of linen and cotton, and that their sale was illegal in the home market. In 1774 an Act was passed (14 Geo. III, c. 72), which sets forth that, "Whereas a new manufacture of Stuffs, wholly made of Raw Cotton Wool (chiefly imported from the British Plantations) hath been lately set up within this Kingdom, in which manufacture many hundreds of poor persons are employed; and whereas the Use and Wear of printed, painted, stained, or dyed Stuffs, wholly made of cotton, ought to be allowed under proper Regulations, it is therefore ordered that no higher duty than 3*d.*, for every yard in length, shall be imposed upon such English 'callicoes;' and that all persons may wear them if so disposed, any previous Acts of Parliament to the contrary notwithstanding." The duty on calicoes was abolished fourteen years later. The first purchase of Sea Island cotton is credited to the sagacity of Robert Owen, afterwards the apostle of Socialism. This is said to have happened in 1791, when he was the manager of the Bank Top Mill, Manchester. The cotton imported into England in 1787 was reckoned at 22,600,000 lbs.; and none of it is set down as derived from American sources. If we compare this with the figures of the present consumption it will seen how great is the increase commemorated by the Cotton Centennial. Instead of the tiny cotton culture, which aimed chiefly at supplying coarse homespun clothing for the plantation hands, the Southern States are now the great source of cotton supply for the entire world; and not less than 17,322,388 acres of land are devoted to its cultivation.

Amongst the papers of Mr. George Walker, F.R.S., are some data respecting the cotton trade, which have been printed by the Manchester Literary and Philosophical Society. One memorandum is a calculation that in 1790 112,400 packages of cotton were imported into Great Britain ("99,000 B. and P. West India, supposed 160 lbs. each; 13,400 bales Turkey, supposed 260 lbs. each"). It was supposed that the manufactories had used 80,000 West India at 160 lbs. nett each, 12,800,000 at 5½*d.* = 827,000*l.*; 12,000 Turkey at 260 lbs. nett each, 3,120,000 at 10½*d.* = 136,500*l.* Then reckoning 15,920,000 lbs. at 6*s.* 8*d.*, the value of the cloth when finished and for sale, is 5,310,000*l.*, leaving 4,346,500*l.* for wages and profit. It is remarkable that in this estimate none of the cotton is described as coming from

America. Another table, however, shows clearly the great change that was taking place. From 1806 to 1812 there were importations to Liverpool of cotton from America, Brazil, Portugal, Demerara and Berbice, Surinam, Trinidad, Dominica and Grenada, Tortola, Antigua, St. Vincent, Nevis, &c., St. Thomas, Jamaica, Bahamas, St. Lucia, Ireland, Mediterranean, Azores, &c., and St. Croix, sometimes in very small quantities. The total imported in the seven years was 1,366,309 packages, or an average of 3,753 per week. The number that came from America was 665,196, and of these 107,123 were from New Orleans. The business facilities of that day may be imagined from the circumstances that in November, 1774, he paid 4*l.* 10*s.* 3*d.* for sending a letter by express from Manchester to Glasgow, by way of Wetherby, Newcastle, and Edinburgh, and that an express to London cost 2*l.* 15*s.* 3*d.* The London letter was delivered in 36 hours, and that to Glasgow in 66 hours.

The following chronological memoranda will show some of the events recorded by the annalists of the cotton industry. In regard to the earlier periods there is considerable obscurity, and therefore room for controversy. With the beginning of the eighteenth century matters became clearer. It is not until the organisation of the factory system that the cotton industry became of national importance.

A.D.

1253. Linen first made in England by Flemish hands.
1298. Cotton used in England for candle wick.
1330. Manufactures of Flanders introduced into Manchester.
1530. Spinning wheel invented at Brunswick.
1631. Printed calicoes imported from India.
1641. Fustians and dimities introduced in England.
1641. Cotton yarn imported from the Levant.
1670. Muslins first worn in England.
1675. Calico-printing introduced into England.
1676. Introduction of the Dutch loom engine.
1677. East India calicoes to the value of 160,000*l.* consumed in England.
1690. A small printworks established on the Thames, at Richmond.
1698. First steam engine brought into successful operation, by Savery.
1701. Value of cotton goods exported, 23,000*l.*
1720. Act prohibiting the use or wear of printed calicoes, whether printed in England or elsewhere, under a penalty of 5*l.* the wearer, and 20*l.* the seller.
1736. So much of the Act of 1720 repealed as forbade the wear of mixed printed goods—that is, goods not all cotton.
1738. Invention of the fly-shuttle by John Kay, of Bury.
1738. Machine for spinning with rollers invented by John Wyatt and Lewis Paul.
1753. A cotton reel invented by L. Earnshaw.
1756. Cotton velvets first made in England.
1757. Duty of 4*d.* per lb. on yarn imported from India.
1760. Value of cotton manufactured in Great Britain, 200,000*l.* per annum.

A.D.

1760. Warping mill invented.
1763. Muslin and cotton quiltings first made in England.
1763. Bleaching generally introduced.
1764. James Hargreaves' invention of the spinning jenny to spin eleven threads at once.
1764. Calico-printing first practised in Lancashire.
1765. English printed calicoes exported to Holland.
1765. Calicoes (so called from their resemblance to Indian manufactures brought from a province of Calicut), first attempted in England.
1766. Value of cotton goods made in Great Britain, 600,000*l.*
1767. Spinning by machinery (the water frame).
1769. Drawing rollers patented by Arkwright.
1770. Spinning jenny patented by Hargreaves.
1772. Arkwright & Co. successfully accomplish the manufactures of calicoes.
1772. First English cotton goods made with cotton warps, by Messrs. Strutt, of Derby.
1774. Chlorine discovered by Scheele.
1775. Mule spinning invented by Samuel Crompton.
1776. First cotton mill erected at Stalybridge.
1777. First cotton mill erected at Preston.
1777. Green dye for calicoes introduced by Dr. R. Williams.
1779. The finest cotton brought from Berbice. Price of cotton: Berbice, 2*s.* 1*d.*; Demerara, 1*s.* 1*d.*; Surinam, 2*s.*; Cayenne, 2*s.*
1781. Brazil cotton first imported from Maranham.
1782. A panic in Manchester, in consequence of 7,012 bales of cotton being imported between December and April.
1783. Brazil cotton first brought to Manchester.
1783. Arkwright's machinery for spinning and carding cotton by steam used in Manchester.
1784. Machinery for spinning open to the trade.
1784. Bleachers, printers, and dyers compelled to take out licences under an annual tax of 2*l.*, by Pitt.
1785. Cotton first cultivated in Georgia and South Carolina, from seed from the Bahamas.
1785. Cotton imported from America—one bag from Charlestown, one from New York, and twelve from Philadelphia.
1785. First steam engine for cotton mills, by Watt.
1785. Cylindrical printing invented by Mr. Bell, and greatly improved by Mr. Lockett, of Manchester.
1786. A small quantity of cotton received from the Isle of Bourbon, sold at 7*s.* to 10*s.* per lb.
1786. Bleaching with acid introduced into the bleach works of Mr. M'Gregor, near Glasgow, by James Watt.
1787. First copyright for printers.
1787. Excise duty of 3½*d.* per square yard imposed on calicoes made and printed in England, and foreign calicoes charged with a duty of 7*d.* per yard when printed and dyed in Great Britain.
1787. Previous to this year the supply of cotton was principally from the West Indies.
1787. 108 bales of cotton imported from America.
1787. Power loom invented by Dr. Cartwright.
1787. Forty-one spinning factories in Lancashire.
1788. Acid first used for bleaching in Manchester.
1791. First cotton mill erected in United States.
1793. First attempt to spin yarn from 100's and upwards by power.

A.D.

1793. First importation of consequence of cotton from America.

1793. Whitney's saw-gin invented for cleaning cotton.

1798. Chloride of lime for bleaching patented by Mr. Tennant, of Glasgow.

1801. Discharge work in printing accomplished by Messrs. Peel.

1801. First construction of a fire-proof cotton-mill. Messrs. Phillips and Lea, of Manchester, first applying cast-iron beams to this purpose.

1802. The first Factory Act passed. It was promoted by the first Sir Robert Peel, and limited the labour of apprentices in cotton-mills to twelve hours, prohibiting night-work after June, 1804, and provided for their instruction and clothing.

1802. Import duties on raw cotton re-imposed, slightly higher than those of 1798.

1803. A power loom patented by H. Horrocks, of Stockport.

1804. Invention of the dressing machine by Thomas Johnson, of Stockport; it supplied the missing link in power-loom invention, for want of which the looms had failed to achieve any decisive success.

1808. New method of engraving with dies for calico-printing introduced by Mr. Lockett, of Manchester.

1809. Parliament granted Dr. Cartwright 10,000*l.* for his invention of the power-loom.

1810. Turkey-red first introduced into calico-printing.

1812. Between four and five million spindles at work in Great Britain.

1813. H. Horrocks, of Stockport, made important improvements in the power-loom, and his machine eventually came into general use. The handloom weavers took the alarm, as the spinners had done in 1799, and power-looms were extensively destroyed by mobs.

1815. Eight pounds of cotton twist sent to India on trial.

1815. Robert Owen, of New Lanark Mills, on the Clyde, advocates a ten hours' bill. The Act of 1802 was evaded by the employment of non-apprenticed children. Sir Robert Peel advocated Owen's views in Parliament.

1816. Yarn trade opened with the Continent.

1817. Number of spindles in use in the United Kingdom estimated by Mr. John Kennedy at 6,645,000.

1819. Second Factory Act, commonly called Peel's Act, prohibiting the employment of children under nine years of age, and limiting the labour of all young people under sixteen to twelve hours a day.

1821. First regular exportation of twist to India.

1823. Cotton first imported from Egypt.

1825. Richard Roberts, of Sharp and Roberts, Manchester, patents his self-acting mule.

1827. De Jongh's self-acting mule patented.

1831. Third Factory Act, promoted by Lord Morpeth and Sir John Hobhouse. It shortened the hours of labour in cotton mills of young persons under eighteen, to eleven and a half hours a day, and eight and a half on Saturdays, in all sixty-nine hours a week.

1832. Duty on printed calicoes repealed. Spindles in the United Kingdom, 9,300,000; power-looms, 203,000. Ninety-six cotton factories at work in Manchester and Salford.

1833. William Graham, of Glasgow, invented the self-acting temple, which kept the cloth constantly stretched by the action of a pair of clippers. Afterwards superseded by the use of roller temples.

1834. Fourth Factory Act, originated by Lord Ashley, but carried through by Government. It limited the employment of persons under eighteen to twelve hours in one day, and sixty-nine hours a week; and of children under eleven to nine hours a day, and forty-eight hours a week. Under this Act Inspectors of Factories were appointed for the first time.

A.D.

1835. In Lancashire there were 683 cotton factories at work, and in Great Britain and Ireland, 1,263, employing in all 100,886 males, and 120,283 females.
1836. J. C. Dyer, of Manchester, invented the cardmaking machine.
1845. Duty on cotton repealed.
1847. The Ten Hours Bill passed.
1851. Muslin shown at the Great Exhibition, manufactured from yarn of the extraordinarily fine count, 700's, spun by Mr. Thomas Houldsworth, of Manchester and Reddish.
1858. Mr. Evan Leigh, of Manchester, invented revolving flat cards for carding and loose boss top rollers for spinning.
1861-4. The Cotton Famine, caused by the Civil War in the United States.

The founder of the modern cotton industry is Richard Arkwright. The originality of his inventions has been warmly contested, and the patent granted to him in 1769 for spinning with rollers was set aside in 1785 for want of novelty. It would take too long to examine in detail the evidence for and against his claims, nor is it at all necessary, for even those who deny his mechanical genius do not doubt the wonderful sagacity and power of organisation by which he not only reaped a large fortune for himself, but laid the foundation of a trade which has added so greatly to the wealth and prosperity of the nation. The invention of the fly-shuttle, the various improvements in carding, and the patenting of Hargreaves' spinning jenny in 1770, prepared the way for the use of the spinning frame or throstle, which, whether the invention of Arkwright or not, was effectively introduced by him. The cotton trade as a home industry was now gradually transformed by the factory system.

The year 1775 witnessed the completion by Samuel Crompton of his "mule jenny." No more important invention has been made in relation to the cotton industry. It is a melancholy fact that Crompton, a man of genius, and of sensitive and refined nature, was treated with conspicuous ingratitude by the people whom he had helped to enrich. His mechanical talent was not accompanied by business capacity, as in the case of Arkwright. Parliament eventually made a grant of 5,000*l.*, a sum ludicrously small in comparison with the wealth that his invention had brought to the country. The character of Crompton was a fine one, modest and sensitive, honourable in his dealings, deeply religious, with a tendency to mysticism, and with something of the artistic temperament, he was little fitted for a struggle with the coarse and unfeeling generation amongst whom his lot was cast. His life was made poor by the ingratitude of those who became rich by the plunder of his brains. The contrast between Arkwright and Crompton in character and fortune is striking.

The next great mechanical innovation was the "power-loom." The inventor was not one interested in the cotton trade, but a Suffolk clergyman. How the Rev. Edward Cartwright came to turn his attention to this matter he has himself told in an interesting passage :—

"Happening to be at Matlock in the summer of 1784, I fell in company with some gentlemen of Manchester, when the conversation turned on Arkwright's spinning machinery. One of the company observed, that as soon as Arkwright's patent expired, so many mills would be erected, and so much cotton spun, that hands never could be found to weave it. To this observation I replied, that Arkwright must then set his wits to work and invent a weaving mill. This brought on a conversation on the subject, in which the Manchester gentlemen unanimously agreed that the thing was impracticable ; and, in defence of their opinion, they adduced arguments which I certainly was incompetent to answer, or even to comprehend, being totally ignorant of the subject, having never at that time seen a person weave. I controverted, however, the impracticability of the thing, by remarking that there had lately been exhibited in London an automaton figure which played at chess.

"Some little time afterwards, a particular circumstance recalling this conversation to my mind, it struck me that, as in plain weaving, according to the conception I then had of the business, there could only be three movements, which were to follow each other in succession, there would be little difficulty in producing and repeating them. Full of these ideas, I immediately employed a carpenter and smith to carry them into effect. As soon as the machine was finished, I got a weaver to put in the warp, which was of such materials as suit cloth is usually made of. To my great delight a piece of cloth, such as it was, was the produce. As I had never before turned my thoughts to anything mechanical, either in theory or practice, and had never seen a loom at work, or knew anything of its construction, you will readily suppose that my first loom must have been a most rude piece of machinery. The warp was placed perpendicularly, the reed fell with a force of at least half a hundredweight, and the springs which threw the shuttle were strong enough to have thrown a Congreve rocket. In short, it required the strength of two powerful men to work the machine at a slow rate, and only for a short time. Conceiving in my great simplicity that I had accomplished all that was required, I then secured what I

thought a most valuable property by a patent, 4th April, 1785. This being done, I then condescended to see how other people wove; and you will guess my astonishment when I compared their easy mode of operation with mine. Availing myself, however, of what I then saw, I made a loom, in its general principles nearly as they are now made; but it was not till the year 1787 that I completed my invention, when I took out my last weaving patent, August 1st of that year." Parliament made a grant to Cartwright of 10,000*l.*

The next great improvement was due to the genius of Richard Roberts, a man who, it has been rightly said, could "invent to order." It was in 1825 that he invented the self-acting mule, and thus completed the remarkable series of inventions which have contributed to the cotton trade of the last hundred years.

The growth of the cotton trade was coincident with the growth of the factory system. The demand for labour was great, and by a system of apprenticeship the mills of Lancashire were largely supplied by pauper children imported into the county. There were no safeguards against overwork, and no sanitary regulations. The first Sir Robert Peel was instrumental in passing the first Factory Act, that of 1802 (42 Geo. III, c. 73). This limited the labour of children to twelve hours daily, and prohibited their employment in night work. The next legislative enactment, passed in 1819 (59 Geo. III, c. 56), forbids the employment of children under nine years of age in cotton factories, whilst between nine and sixteen they could only be employed for twelve hours. By Lord Althorpe's Act of 1833 (3 and 4 Wm. IV, c. 103) the principle of half time was introduced. Inspectors were appointed, and the Acts thus became something more than a dead letter. The agitation for a ten hours' Bill was carried on with great vigour, and under the lead of Lord Ashley (afterwards Lord Shaftesbury) gained an increased support. He carried the proposal for limiting the work of women and children to ten hours, and Peel agreed to a twelve hours limit by way of compromise. Thus the Factory Act became law in 1844 (7 and 8 Vict., c. 15). Its provisions were that the working hours of children under thirteen should be diminished to six and a half hours per day; that the time during which they were to be under daily instruction in schools should be extended from two hours to two and a half in winter, and three in summer; that the labour of persons between thirteen and eighteen, and of adult women (now first brought under the Factory Acts) should

be limited to twelve hours a day; that a certificate of baptism should be produced, if demanded, to prove that the child was really of the age required by the law; that the amount of the fines imposed for the violation of the law should be diminished, but that they should be inflicted for each person improperly worked, instead of for each offence, which might include several persons; and that machinery should be guarded, to prevent accident. Inspectors were appointed to carry out the Act. In 1847 Mr. Fielden, member for Oldham, introduced and carried a Bill which limited the labour of young people between the ages of thirteen and eighteen to twelve hours a day, allowing two hours out of the twelve for meals; and he further proposed that the same restriction should apply to females above eighteen years of age. The principle of State regulation of the labour of women and children was thus fully recognised.

The American war was a terrible blow to the prosperity of the cotton districts. Thousands of decent working people had to part with their little earnings to keep the wolf from the door, and those who had been Sunday School teachers and scholars were reduced to begging in the streets. At first the public mind did not realize the magnitude of the evil, and it was thought that the millowners were not doing their duty. This was a mistake, for many of them made great sacrifices, and saw the source of their prosperity dried up by a quarrel in which they had no concern. After a brief period the cessation of the cotton supply led to the stoppage of many of the factories. In July, 1862, a relief fund was started, and the generosity of the British public saved the Lancashire artisans from starvation. Many emigrated, and many turned their hands to other labour; but cotton manufacture has its own needs and characteristics, and it was not always that those who had acquired skill and deftness in it could adapt themselves to other kinds of work. The total amount raised for the relief of the distress caused by the Lancashire cotton famine was 2,000,000*l.*; but this does not represent by a long way all that was done by private philanthropy. The excess of out-door relief over ordinary years was about 1,000,000*l.* The famine came to an end in the summer of 1865. Some fortunes were made by running the blockade of the Confederate ports and bringing out cotton. It was remarkable that whilst the aristocratic classes sympathised to some extent with the slave holders the working people of the north were enthusiastically in favour of the free North. This was emphatically

the case in Lancashire, where the artisans saw almost the destruction of the social fabric. It had been said "cotton is king," but the sentiment of freedom was stronger than sordid interest.

The civil war in the United States gave increased urgency and importance to the question of cotton supply. In India many attempts had been made to improve the quantity and quality of cotton, but not with conspicuous success. The highest quantity exported to Great Britain was in 1857, when it amounted to 680,000 bales (5,458,426*l.*), but the stoppage of the American supply led to a great increase, and in 1866 the figure was 1,847,760 bales (25,270,547*l.*). This quantity has not been maintained, but after the United States the most important place is now taken by India in the growth of cotton, and this proves that the efforts made for its improvement have not been fruitless.

Cotton has been known in Egypt from a remote period, but its cultivation did not attain any great importance until about 1820, when some seeds brought from Ethiopia by Maho Bay were successfully grown in his garden at Cairo. The plant was recognised by M. Jumel, who was in the service of Mehemet Ali. That quick-witted despot gave great encouragement to the culture, and in 1823 exported 5623 bales. Jumel became the director of the Viceroy's cotton plantation, and the cultivation of the plant has since greatly extended in Lower Egypt. The gross misgovernment of that unhappy country is perhaps the chief hindrance to the development of the natural advantages which, for cotton growing, are said by competent judges to be as great as those of the Southern States of America. The advantages of Turkey as a source of cotton supply are not so great, but official corruption and misgovernment have greatly hindered its possible development.

The "cotton famine," caused by the struggle in America, led many countries to experiment in cotton growing, and it is not impossible that if the Slave War had been continued the new sources of supply would have eventually proved adequate to the needs of the manufacture. In 1862 there was held at the International Exhibition a conference of representative cotton growing districts, and Brazil, Peru, Africa, and West Indies, New South Wales, Queensland, Italy, Greece, Turkey, Egypt, and India, all showed great activity. Thirty-five countries exhibited samples, but ten years later most of these had been beaten out of the field. The success of the Federal Armies, the generous terms given to the vanquished by Grant, and the renewal of industry

in the Southern States put an end to the hopes of competitors. "Let us have peace" was the aspiration of the great citizen-soldier, and with peace America once more took the foremost position in the production of cotton. The marvellous manner in which the devastation of the war has been repaired and the ruined fortunes of the South have been built up again, is a matter of history. The disappearance of slavery, as costly from an economical point of view as it is wicked from an ethical standpoint, has removed the greatest hindrance to the greatness and prosperity of the American nation.

The quantity of raw cotton imported into the United Kingdom in 1815 amounted to only 99,000,000 lbs.; it rose to 152,000,000 in 1820; to 229,000,000 in 1825; to 264,000,000 in 1830; to 592,000,000 in 1840; to 663,576,861 lbs. in 1850; and to 1,390,938,752 lbs. in 1860; it fell to 669,583,264 lbs. in 1863. The subjoined table gives the total cotton imports, exports, and the home consumption.

Years.	Total Imports of Cotton.	Total Exports of Cotton.	Retained for Home Consumption.
	lbs.	lbs.	lbs.
1860	1 390.938.752	250,339,040	1,140,599,712
1861	1,256,984,736	298,387,920	958,696,816
1862	523,973,296	214,714,528	309,258,768
1863	669,583,264	241,352.496	428,230,768
1864	893,304,720	244,702,304	648,602,416
1865	977,978,288	302,908,928	675,069,360
1866	1,377,129,936	388,952,368	988,177,568
1867	1,262,536,912	350,626,416	911 910,496
1868	1,328.084,016	322.620,480	1,005,463,536
1869	1,220,809.856	272,928,544	947,881,312
1870	1,338,305,584	236,630,576	1,101.675,008
1871	1,778.139,776	362,234,160	1.409,905,616
1872	1,408.837,472	273,005,040	1.135,832.382
1873	1,527,596.224	220,000,256	1,307,595,968
1874	1,566,864,432	258,967,632	1,307,896,800
1875	1,492,351,168	262,853,808	1,229,497,360
1876	1,487,858,848	203,305,872	1,284,552,976
1877	1,355,281,200	169,396,304	1.185,884.896
1878	1,340.380.048	147,257,936	1.193,122,112
1879	1,469,358,464	188,201,888	1,281 156,576
1880	1,628,664,576	224,577,360	1,404,087,216
1881	1,679,068,384	207,710,618	1.471,357.776
1882	1,784,111,168	264,998,160	1,519,113,008
1883	1,734 333,552	247,228,800	1,487,104,752
1884	1,749,169,184	251,661,648	1,497,507,536

The population engaged in the cotton industry has greatly increased. The check caused by the American War has been overpassed. The following table will show the statistics of cotton factories at intervals in the last quarter of a century:—

No. of Factories.

Cotton factories.	1856.	1861.	1868.	1880.
England and Wales .	2,046	2,715	2,405	2,579
Scotland	152	163	131	89
Ireland	12	9	13	6
United Kingdom . .	2,210	2,887	2,549	2,674

No. of Spinning Spindles.

Cotton factories.	1856.	1861.	1868.	1880.
England and Wales .	25,818,576	28,352,125	30,478,125	42,640,309
Scotland	2,041,129	1,915,398	1,397,546	1,487,853
Ireland	150,512	119,944	124,240	78,528
United Kingdom . .	28,010,217	30,387,467	32,000,014	43,206,690

No. of Power Looms.

Cotton factories.	1856.	1861.	1868.	1880.
England and Wales .	275,590	368,125	344,719	489,960
Scotland	21,624	30,110	31,864	22,265
Ireland	1,633	1,757	2,746	2,686
United Kingdom . .	298,847	399,992	379,329	514,911

No. of Persons Employed.

Cotton Factories.	1856.	1861.	1868.	1880.
England and Wales .	341,179	407,598	357,052	451,508
Scotland	34,698	41,237	39,809	29,775
Ireland	3,345	2,734	4,203	1,620
United Kingdom . .	379,213	451,569	401,064	482,903

The following table will show the production and exportation of yarn :—

Years.	Yarn Produced.	Exported.	Consumed at Home.
	lbs.	lbs.	lbs.
1819	98,566,200	18,085,410	80,480,790
1824	148,656,600	33,605,510	115,051,090
1834	270,186,876	76,478,468	193,708,408
1844	445,577,480	138,540,079	307,037,401
1854	693,659,000	147,128,000	546,531,000
1861	899,902,000	177,848,000	722,054,000
1862	373,352,000	88,554,000	284,798,000
1863	404,979,000	70,678,000	334,301,000
1864	432,629,000	71,951,000	360,678,000
1874	1,120,525,000	220,599,000	899,926,000
1884	1,411,000,000	270,904,600	1,140,095,400

Of the amount of yarn here shown to have been consumed at home, the greater part is exported after being manufactured. In the next table the progress of the exports of manufactured piece goods since 1862 is given.

Years.	Exports of Cotton Piece Goods.	Years.	Exports of Cotton Piece Goods.
	yards.		yards.
1863	1,710,962,072	1874	3,606,639,044
1864	1,751,989,300	1875	3,562,462,166
1865	2,014,303,716	1876	3,669,404,374
1866	2,575,698,138	1877	3,837,820,850
1867	2,832,023,707	1878	3,618,065,300
1868	2,977,106,551	1879	3,724,648,800
1869	2,868,630,125	1880	4,495,645,000
1870	3,266,998,366	1881	4,777,273,300
1871	3,417,405,811	1882	4,349,391,000
1872	3,537,985,311	1883	4,538,888,500
1873	3,483,735,585	1884	4,417,280,000

Since the end of the cotton famine improved machinery has greatly increased the productive power of the industry, but progress has not been uniform, and more than one crisis has interfered with its prosperity. At the present moment it is suffering from the long-continued general depression of trade, and eager eyes are being turned in the direction of possible new markets. If we look at the immense advances of the cotton trade in the past century, there is little reason to fear any permanent check of its growth and importance.

We have thus traced in outline the progress of that which from small beginnings has in a single century become one of the most important of English industries. The products of the looms of the cotton districts go through many hands and lands, and, as the present writer as elsewhere observed, "The nations of the earth are bound together by the prosaic processes that go on from morn to night in a Manchester warehouse. The swarthy Hindoo receives her packages in the Ghauts of the Ganges, and the swarthier negro unloads them by the Niger. At this moment she may watch the caravans toiling over the Asiatic plains, the fighting Pindarees forcing their way through the passes of Hindostan, the indolent Turk sitting cross-legged in his bazaar, smoking the pipe of unthoughtfulness, and selling his wares to those who chose to buy: whilst the American is regretfully taking back in textile fabrics the cotton grown in his own fields. In every clime there are the ambassadors of those whose mission has been said to 'cottonize' the world."

WILLIAM E. A. AXON.

PARLIAMENTARY RECONSTRUCTION.

THE tenth Parliament of Queen Victoria will be chiefly noteworthy when the history of the present reign is written as the Parliament of Mr. Gladstone and the Parliament of the New Reform Bill. Although a reconstruction of the House of Commons had been frequently talked of since the last great change was made eighteen years ago, the probability of its accomplishment within the term of the late Parliament had never been seriously discussed, and when Mr. Gladstone announced his intention of treating it as a matter of urgency grave doubts were entertained as to the feasibility of carrying so important a measure in the limited time still available for the purpose. It soon, however, was made apparent that the die was cast, and the long and protracted sessions, the agitations in the House and out of the House, the stormy discussions in the press, the demonstrations in the streets and parks, and the voluminous essays of the pamphleteers and magazine writers, which are already almost forgotten in view of the actual possession of the new scheme, gradually led up to the passing first of the Representation of the People Bill and then of the Redistribution Bill. Before proceeding to consider the results of the new measure it may be of interest to glance back at the chief features of the earlier Reform Bills, for it is by a comparison of the present with the past that the true significance of the last Act becomes apparent.

We have, in order to picture to ourselves the completeness of the transformation which the second House of the Legislature has undergone, to turn back to the first year of the present century, when the Act of Union between Great Britain and Ireland had just been consummated, and had resulted in the addition of a hundred members to the House of 558 as it then stood. The great point of contrast between the present House of Commons and the House as it was then constituted lies, however, not in the number of its members but in its representative character, the electors at that time only numbering about 440,000, giving a proportion of one vote to every fifty people. This was the condition of things which existed in the reign of the Fourth George, and it was in the year of His Majesty's death that the Great Reform Bill—as it will ever be entitled to be

regarded, for the subsequent measures have only been the extension of its fundamental principle of throwing the representation more and more directly into the hands of the people—was introduced. Its framers were men of note in the political world, among them being the Earl Russell, then and long after familiarly known as Lord John Russell, to whom the task of drafting the initial scheme was entrusted by Lord Durham, the head of the Committee appointed to report on the subject to the Prime Minister, Earl Grey. Lord Russell, in his essay on the History of the English Government and Constitution, published in 1873, gives a detailed and exhaustive account of the difficulties which had to be surmounted and of the objects which had to be aimed at, the thoroughly constitutional and conservative purpose of the Committee being well expressed in the words, "it was desirable rather to build on the old foundations than to indulge our fancy or our conceit in choosing a new site, and erecting on new soil—perhaps on sand—an edifice entirely different from all which had hitherto existed." So Lord John Russell was ultimately entrusted with the task of "bringing in the Bill," and on the 1st of March it was performed. When the plan came to be looked at it was found to be sufficiently sweeping in the changes which it was destined to effect, and its reduction of the number of members in the House from 658 to 596 secured for the Bill its ultimate rejection. Reintroduced on Midsummer-day in the same year, the Bill, with very slight alterations, passed its second reading by a majority of 136, and finally the whole measure passed through Committee, and was read a third time by a majority of 345 to 236. There still remained, however, the reference to the House of Lords on which its fate depended, and there, after prolonged discussion, the second reading was rejected by 199 to 158 votes. Then began the meetings and the riots which served to give vent in a forcible and somewhat unpleasant fashion to the strong feeling and opinion of the country that the measure after having passed the Commons ought not to be thrown back again. In compliance with Parliamentary procedure and tradition it was needful to go through all the forms of the House of Commons once more; in the result the second reading was carried by 324 to 162, and on the 23rd of March, 1832, it was read a third time and passed by a vote of 355 to 239. Earl Grey then once more took up the arduous task of pleading for the Bill in the Peers' House, and Lord Lyndhurst, the Duke of Wellington,

and last but not least the eminent "Henry of Exeter" opposed it to the utmost of their power. This time the second reading was carried by 184 to 175, but in Committee the measure was once more shipwrecked; Lord Grey refusing to accept an amendment on the question of the redistribution of seats. The resignation of the Ministry brought about another collision between the peers and the people, party spirit ran high, the streets gave ample evidence of the bitterness which had been engendered by the action of the Lords, and the threat of a refusal to pay taxes until the Bill was passed served to express in an unmistakable way the temper of the country. Happily the worst evils which might have occurred, and as a matter of fact were anticipated, never came to pass, for the influence brought to bear upon the King led His Majesty to express a wish to the majority in the House of Lords that they should withdraw their opposition, and on the 7th of June, 1832, the Royal Assent was given to the Bill. Thus the Great Reform Bill became law, after an irritation of the feeling of the nation which was almost without parallel in the history of the country. The prorogation of Parliament followed on the 16th of August. The preparations for the general election were at once commenced, and on the 5th February, 1833, the Reformed Parliament opened its first session.

The operation of the Reform Act will be best seen by giving a list of the constituencies which were disfranchised by its operation, commencing with the boroughs. The following is a list of the boroughs which from 1833 ceased to send members to Parliament, as shown in the schedule to the Act, the counties in which they were situated being also given:—Old Sarum (Wilts); Newtown (Isle of Wight); St. Michael's (Cornwall); Galton (Surrey); Bramber (Sussex); Bossiney (Cornwall); Dunwich (Suffolk); Ludgershall (Wilts); St. Mawes (Cornwall); Beeralston (Devon); Westhove (Cornwall); St. Germans (Cornwall); Newport (Cornwall); Bletchingley (Surrey); Aldborough (Yorks); Camelford (Cornwall); Hindon (Wilts); East Looe (Cornwall); Corfe Castle (Dorset); Great Bedwin (Wilts); Yarmouth (Isle of Wight); Queenborough (Kent); Castle Rising (Norfolk); East Grinstead (Sussex); Higham Ferrers (Northamptonshire); Wendover (Bucks); Weobly (Herefordshire); Winchelsea (Sussex); Gregory (Cornwall); Haslemere (Surrey); Saltash (Cornwall); Orford (Suffolk); Callington (Cornwall); Newton (Lancashire); Ilchester (Somerset); Boroughbridge

(Yorkshire); Stockbridge (Hants); New Romney (Kent); Hedon (Yorkshire); Plympton (Devonshire); Seaford (Sussex); Heytesbury (Wilts); Steyning (Sussex); Whitchurch (Hants); Wootton Bassett (Wilts); Downton (Wilts); Fowey (Cornwall); Milborne Port (Somerset); Aldeburgh (Suffolk); Minehead (Somerset); Bishop's Castle (Salop); Okehampton (Devonshire); Appleby (Westmoreland); Lostwithiel (Cornwall); Brackley (Northants); Amersham (Bucks). Thirty boroughs which had hitherto returned two members were deprived of one, and the following new boroughs were constituted, to return two members:—Manchester (Lancashire); Birmingham (Warwickshire); Leeds (Yorkshire); Greenwich (Kent); Sheffield (Yorkshire); Sunderland (Durham); Devonport (Devonshire); Wolverhampton (Staffordshire); Tower Hamlets (Middlesex); Finsbury (Middlesex); Marylebone (Middlesex); Lambeth (Surrey); Bolton (Lancashire); Bradford (Yorkshire); Blackburn (Lancashire); Brighton (Sussex); Halifax (Yorkshire); Macclesfield (Cheshire); Oldham (Lancashire); Stockport (Cheshire); Stoke-upon-Trent (Staffordshire); Stroud (Gloucestershire). To return one member:—Ashton-under-Lyne (Lancashire); Bury (Lancashire); Chatham (Kent); Cheltenham (Gloucestershire); Dudley (Worcestershire); Frome (Somersetshire); Gateshead (Durham); Huddersfield (Yorkshire); Kidderminster (Worcestershire); Kendal (Westmoreland); Rochdale (Lancashire); Salford (Lancashire); South Shields (Durham); Tynemouth (Northumberland); Wakefield (Yorkshire); Walsall (Staffordshire); Warrington (Lancashire); Whitby (Yorkshire); Whitehaven (Cumberland); Merthyr Tydfil (Glamorganshire).

The main feature of the Act in regard to the extension of the franchise was its admission of copyholders and leaseholders in counties to the right of voting, and the enfranchisement of occupiers, whether as owner or tenant, of houses or other buildings in boroughs which, with any land occupied under the same landlord, amounted to the yearly value of not less than 10*l*. It was distinctly laid down that the person voting in respect of such tenancy or ownership must have occupied for twelve months before the last day of the previous July, and must have paid all poor rates and assessed taxes for the preceding year ended on the 6th April. The Act further provided that no person should be placed upon the register who had within twelve calendar months received parochial relief or other alms. The new electors, numbering half a million of persons, were mainly

of the middle and lower middle classes; in fact it was, as Mr. William Heaton points out in his interesting history of "The Three Reforms of Parliament,"* a "middle class measure." It has taken half a century to induce the country to extend to the working classes the privilege then conferred upon the smaller shopkeepers and persons of the lower middle class, but they too are now numbered among the nominators of our legislators, and the impetus given to the feeling in favour of enlarging the electorate has resulted in the addition to the register by a single statute of four times the number of names inscribed upon it in 1832.

But the last great measure has not been reached at a single bound; the intervening Act of 1867 formed a convenient stepping-stone from the first Reform Act to its logical and inevitable complement. Many measures offering partial instalments of the boon now conferred upon the people saw the light between 1832 and 1867, and various plans were suggested for giving to a larger number of persons the right of voting for Parliament, but it was reserved for Mr. Gladstone, as Chancellor of the Exchequer, to frame the measure which on the 12th of March, 1866, he introduced in the House of Commons. The chief proposals in the Bill were to reduce the county franchise to 10*l.*, and extend the borough franchise, the estimated addition to the electoral roll being less than half-a-million of votes. The opposition offered to the measure by the Fourth Party of that day, headed by Mr. Lowe and Lord Elcho, is still fresh in the memory of the country, and it resulted in reducing the government majority to the narrow margin of five in a house of 631 members. The Redistribution Bill which followed formed the real *crux* of the transaction, for although the principle of the extended franchise had been accepted readily enough by the ministerialists, the prospect to the electors of "losing a member," and to their representatives of losing a seat, was far from pleasant even to the sturdiest reformers. This second element in the scheme led to the decision to reopen the whole question by combining the Representation Bill and the Redistribution Bill in one measure, and on this the Government was in the last resort defeated by 315 to 304. The resignation of ministers followed, and then once more began the day of agitation, the well-remembered throwing down of the Hyde Park railings forming the chief feature in the metropolitan con-

* T. Fisher Unwin, 1885.

tribution to the efforts made by the riotous multitude to bring the majority of the House of Commons into accord with the popular sentiment. When the Conservatives came into power in 1867 proposals were made to give the franchise on educational and financial qualifications; but when on the 18th of March Mr. Disraeli described to the House the chief features of the Bill which he introduced, it was found to give household franchise in boroughs subject only to an occupancy of two years' duration, and the payment of rates for the relief of the poor, while in the counties the occupation of houses with a rateable value of 15*l.* was to be the condition of admission to the coveted privilege. The second reading was fixed for the 25th of March, and after a comparatively brief discussion the Bill was "committed." In the committee stage the measure was kept literally "in durance vile" for two months, and on its reappearance before the House it was found to have been amended in many material points. When at length it was sent on to the Peers on the 15th of July, it was a far more sweeping and comprehensive measure than the most sanguine advocates of franchise extension could have ventured to anticipate, and by its operation on the 15th of July nearly a million men in England and Wales were admitted to full electoral privileges. The measure as finally adopted gave the franchise in boroughs to all householders of twelve months' actual tenancy who had paid their poor rates; to lodgers in boroughs whose occupation as sole tenant of lodgings of 10*l.* yearly value as unfurnished rooms had lasted for twelve months; to all men in the counties seized at law or in equity of any lands or tenements, freehold, copyhold, or leasehold, of the clear yearly value of not less than 10*l.*, and to all county occupiers as owners or tenants of lands or tenements of 12*l.* rateable value. The redistribution provided for under the Bill deprived many boroughs with populations of less than 10,000 of one member, the single-member borough constituencies thus named in the schedule being: Honiton (Devon); Melford (Norfolk); Wells (Somerset); Evesham (Worcester); Marlborough (Wilts); Harwich (Essex); Richmond (Yorks); Lymington (Hants); Chippenham (Wilts); Bridport (Dorset); Stamford (Lincoln); Wycombe (Bucks); Poole (Dorset); Knaresborough (Yorks); Andover (Hants); Leominster (Hereford); Tewkesbury (Glo'ster); Ludlow (Salop); Ripon (Yorks); Huntingdon (Hunts); Maldon (Essex); Buckingham (Bucks); Newport (Isle of Wight); New Malton

(Yorks); Tavistock (Devon); Lewes (Sussex); Cirencester (Glo'ster); Bodmin (Cornwall); Great Marlow (Bucks); Devizes (Wilts); Hertford (Herts); Dorchester (Dorset); Lichfield (Staffordshire); Cockermouth (Cumberland); Bridgnorth (Salop); Guildford (Surrey); Chichester (Sussex); Windsor (Berks). The newly included boroughs to which single members were apportioned were Darlington, Hartlepool, and Stockton, in the county of Durham; Burnley and Staleybridge, in Lancashire; Wednesbury in Staffordshire; Middlesbrough and Dewsbury in Yorkshire; and Gravesend in Kent; while the metropolitan borough of Chelsea received two members. In the counties a further subdivision gave additional seats, Cheshire, Derbyshire, Devonshire, Essex, Kent, Lincoln, Norfolk, Somerset, Staffordshire, and Surrey, being subjected to a tripartite division, while Lancashire was allowed four divisions, and the West Riding of Yorkshire three. In the Acts of 1868, which applied the same principle to Scotland and Ireland, new seats were given to North Britain for the Universities of St. Andrews and Edinburgh jointly, and the Universities of Glasgow and Aberdeen jointly; an additional seat was given to the city of Glasgow, and the counties also benefited by subdivision. The Irish Reform Bill of the same year left the seats untouched, but reduced the occupation franchise in towns from 8*l.* to 4*l.*, and made the lodger qualification a clear annual value of 10*l.* for unfurnished rooms.

After the year 1868 the hopes of Reformers were transferred from the boroughs to the counties, and scarcely was the Act passed when they began to talk of further extensions of the electorate, and the assimilation of the county and borough franchise became a familiar phrase. It was not, however, until 1884 that the third Reform Bill, described as a Bill for the enlargement of the occupation franchise in Parliamentary elections throughout the United Kingdom, was outlined in the Queen's speech, and Mr. Gladstone obtained leave to bring in the measure. It was on a day noteworthy in itself in the calendar, as the day which comes only once in four years—the 29th of February—that Mr. Gladstone fulfilled his promise, and the character of the measure as a Bill intended to enfranchise the agricultural labourer was plainly indicated in his introductory speech. Accepting the existing number of electors in 1884 as being about 3,000,000, the new Reform Bill gave a prospect of adding to the roll about 2,000,000 "capable citizens," as Mr.

Gladstone termed them, and from that day the battle began. The first point in the scheme to which exception was taken was the omission of the complementary provision for the redistribution of seats, which must, it was obvious, follow any extension of the franchise on the large scale proposed in the Bill. This question of redistribution was at once brought into prominence, and it soon became evident that on the willingness of the Ministry to combine a Redistribution Bill with the Franchise Bill the fate of the latter measure would very largely depend. In the House of Commons Lord John Manners met the proposal for the second reading of the Government Bill, on the 24th of March, by an amendment demanding the introduction of a Redistribution Bill coincidently with the Franchise Bill; but in the issue the Government carried their point, and the second reading secured 340 votes to 210. The determination of the ministerialists to brook no interference with their procedure—for the question really was not whether redistribution should be considered at all, its treatment being a necessity involved in the passing of the Franchise Bill, but whether it should be dealt with as part and parcel of the extension of the franchise, or should be brought forward and settled after the first measure had been disposed of—was sustained by their supporters, and the third reading of the original measure, which had been very slightly altered in Committee, was carried without a division. When the Bill was taken into the Lords it was at once met by Lord Cairns, who, on behalf of the opposition, moved an amendment on parallel lines to that which Lord John Manners had submitted to the Commons, and as the action of the Peers, who adopted it by 205 to 146, provoked much hostility, it will be well to quote the *ipsissima verba:* "That this House, while prepared to concur in any well considered and complete scheme for the extension of the franchise, does not think it right to assent to the second reading of a Bill having for its object a fundamental change in the electoral body which is not accompanied by provisions for so apportioning the right to return members as to ensure a true and fair representation of the people, or by an adequate security in the proposals of the Government that the present Bill shall not come into operation except as part of an entire scheme." This involved the rejection of the Franchise Bill, not on its merits *per se*, but on grounds of procedure, the difference of opinion between the majority in the House of Lords and the majority in the Commons turning upon this, that the Commons were prepared to leave it to the Govern-

ment to deal with redistribution after they had passed the Franchise Bill, while the majority in the Lords refused to pass the first half of what they argued was in effect, if not in name, one measure, until they had seen the second half. Next came a declaration of war to the knife, not against the Conservatives only, but against the House of Lords, and the firm attitude of the leaders on either side gave a serious character to the controversy. All efforts to induce Mr. Gladstone and his colleagues to abandon the position which they had taken up were unavailing. Lord Salisbury was just as firm in his resolve not to bate his demand. Then began the excitement which, although it seemed afterwards to pass away almost as quickly as it had arisen, produced for the time a distinct sensation, not only in the United Kingdom but throughout Europe. "Down with the House of Lords" was for the moment the catch-cry of the multitude and the burden of many speeches; but happily after a few weeks of reflection the unexpected publication in the *Standard*, by some strange inadvertence, of the text of the Government Redistribution Bill—an episode in the case which has never been explained, but which was attended by the happiest results—gave some hope of a compromise. Meetings between the leaders ensued, and when the winter session commenced on the 23rd of October, the possibility of agreement was shown by the offer of Lord Granville to bring in the Redistribution Bill if the Franchise Bill was accepted by their Lordships. On these terms the Bill was passed, and the Redistribution Bill followed in due course.

The Act as finally adopted has many important results, not the least being the sweeping away of the old Parliamentary landmarks in the way of seat-names, a process which has been carried out with almost the same ruthless severity which has served to transmogrify the old titles of the regiments of the British Army. In the first place, the following boroughs are to cease to exist as independent constituencies in England and Wales:—Abingdon (Berks and Oxford); Andover (Southampton); Aylesbury (Buckingham); Banbury (Oxford and Northampton); Barnstaple (Devon); Beaumaris dist. (Anglesea); Berwick-upon-Tweed; Bewdley (Worcester); Bodmin (Cornwall); Brecon (Brecon); Bridgnorth (Salop); Bridport (Dorset); Buckingham (Buckingham); Calne (Wilts); Cardigan dist. (Cardigan, Pembroke, and Carmarthen); Chichester (Sussex); Chippenham (Wilts); Chipping Wycombe (Bucking-

ham); Cirencester (Gloucester); Clitheroe (Lancaster); Cockermouth (Cumberland); Cricklade (Wilts and Gloucester); Devizes (Wilts); Dorchester (Dorset); Droitwich (Worcester); East Retford (Nottingham and York); Evesham (Worcester); Eye (Suffolk); Frome (Somerset); Great Marlow (Bucks and Berks); Guildford (Surrey); Harwich (Essex); Haverfordwest dist. (Pembroke); Helston (Cornwall); Hertford (Hertford); Horsham (Sussex); Huntingdon (Huntingdon); Kendal (Westmoreland); Knaresborough (York, West Riding); Launceston (Cornwall); Leominster (Hereford); Lewes (Sussex); Lichfield (Stafford); Liskeard (Cornwall); Ludlow (Salop and Hereford); Lymington (Southampton); Maldon (Essex); Malmesbury (Wilts); Malton (York, N. and E. Riding); Marlborough (Wilts); Midhurst (Sussex); Newark (Nottingham); Newport (Isle of Wight); New Shoreham (Sussex); Northallerton (York, North Riding); Petersfield (Southampton); Poole (Dorset); Radnor dist. (Radnor and Hereford); Richmond (York, North Riding); Ripon (York, West Riding); Rye (Sussex); St. Ives (Cornwall); Shaftesbury (Dorset and Wilts); Stamford (Lincoln and Northampton); Stroud (Gloucester); Tamworth (Stafford and Warwick); Tavistock (Devon); Tewkesbury (Gloucester); Thirsk (York, North Riding); Tiverton (Devon); Truro (Cornwall); Wallingford (Berks and Oxford); Wareham (Dorset); Wenlock (Salop); Westbury (Wilts); Weymouth and Melcombe Regis (Dorset); Whitby (York, North Riding); Wilton (Wilts); Woodstock (Oxford).

The general principle on which these boroughs have been disfranchised is that of withdrawing a separate representative from all boroughs whose population is under 15,000, while the boroughs whose population does not exceed 50,000 are in future to be one-member constituencies. That this will very seriously affect the question of the representation of minorities can scarcely be denied, and it remains to be seen how it will work. Technically of course the elected member "represents" all his constituents irrespective of their views, but owing to the strength of party politics this is often very far from being the case. In dealing with the large cities and towns additional seats have been given to London, Liverpool, Glasgow, Manchester, Birmingham, and several others, while the larger counties have also gained seats. The net result will be seen by the following table, which gives the state of the representation as it was in the Parliament of 1884, and as it will be in the Parliament of 1886:—

House of Commons.	Number of members.	
	1884.	1886.
England and Wales:		
Counties	187	253
Boroughs	297	237
Universities...	5	5
Total	489	495
Scotland:		
Counties	32	39
Boroughs, &c.	26	31
Universities...	2	2
Total	60	72
Ireland:		
Counties	64	85
Boroughs	37	16
Universities	2	2
	103	103
Grand Total	652*	670

The following table shows the number of Representatives in the House of Commons in 1707, when the members for Scotland were admitted at the time of the union of Great Britain, the number in 1801 when 100 members for Ireland were added, and the number in 1884 and 1886—

	1707.	1801.	1884.	1886.
Number of members	558	658	652	670

Under the new Act the majority of the county divisions have a population of between 50,000 and 60,000; in the boroughs the population varies more largely. Taking the English and Welsh constituencies as a whole we find that the following constituencies (all boroughs) have a population under 20,000 :—

Bedford	19,533
Windsor	19,082
Penryn and Falmouth	18,072
Whitehaven	19,295
Durham	15,372
Winchester	17,780
Hereford	19,821
Pontefract	15,332
Boston	18,873

* Practically reduced to 640 by suspension or disfranchisement of boroughs.

Grantham	17,345
King's Lynn	18,454
Taunton	16,614
Stafford	19,977
Bury St. Edmunds	16,111
Salisbury	16,435

The following constituencies have a population over 20,000 and under 30,000 to each member :—

Colchester (borough)	28,374
Christchurch (borough)	28,535
Huntingdon, south district	27,412
Huntingdon, north district (Ramsey)	29,808
Canterbury (borough)	21,704
Hythe (borough)	28,239
Maidstone (borough)	29,647
Rochester (borough)	21,307
Peterborough (borough)	20,123
Rutlandshire (county)	21,434
Shrewsbury (borough)	26,472
Kidderminster (borough)	26,633
Stockport (two members)	59,553
City of London (two members)	50,652

The number of constituencies with larger populations to each member (over 30,000) stands as follows :—

From 30,000 to 40,000	13
From 40,000 to 50,000	83
From 50,000 to 60,000	185
From 60,000 to 70,000	89
Above 70,000	37

By the time 1886 dawns the new Parliament—the eleventh of Her Majesty's reign—will have been elected, and we may fitly close this brief paper with an expression of the hearty wish that its proceedings may be worthy of the Jubilee Year of the good Queen WHOM GOD PRESERVE.

CHARLES MACKESON.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, ART EXHIBITIONS, SCIENCE, MUSIC, PHILANTHROPY, LEGISLATION, STATISTICS, CHRONICLE AND NECROLOGY OF 1884–85.

ARCHITECTURE, &c., 1885.

THE subject most worthy of mention in the Architecture of Great Britain during the past year is not so much that of any specially fine new edifices, but of the reconstruction of two ancient ones, viz., Peterborough Cathedral and Westminster Hall. It is an instance of the interest taken by the nation generally in their public buildings when these buildings are bodily before them, as compared with the interest evinced in buildings appearing before them as designed only, and whose erection is, therefore, within their control, that whereas the new War and Admiralty Offices, which will be among the most extensive buildings of modern times, excited comparatively but little attention, some of the first men in the country sat day after day in Parliamentary Committee to hear the evidence of architects and artists as to the proposed works at Westminster Hall, its precise ancient condition, architectural details, and its proper mode of restoration; and that in the case of Peterborough the Archbishop of Canterbury had to be appealed to as arbitrator after a controversy as animated as that at St. Albans. At Westminster Hall the following suggestions were made by Mr. Pearson, viz.: to raise the towers at the north end and strengthen the buttresses by reconstructing a two-storeyed gallery which once existed between them, and to reconstruct also a large wing next to New Palace Yard, being an extension of one which had previously existed. It was admitted that of the ancient elevations of this and of the gallery the traces were very slight. The following different suggestions were made by other architects, &c.: 1st. To erect the proposed gallery of one storey only in height, or to design it as cloisters, so as in either case to allow the windows of the hall to be seen to their entire depth. 2nd. To protect the ancient masonry by a mere slight erection of post and frame work. 3rd. To give up any idea of protecting this masonry, and to form the whole side into

a magnificent perpendicular façade by extra buttresses. 4th. To make the hall more prominent, and give it greater importance by raising the roof and windows 10 feet. 5th. To conceal the hall altogether by carrying out Sir Charles Barry's original design. The Committee decided almost unanimously to adopt Mr. Pearson's design, with the exception of raising the north towers. That they must, however, be raised, whether according to his design or that by Sir Charles Barry, is evident. The contest as to Peterborough Tower was on a more definite basis, but fought with equal vigour with that of the Hall. At the outset it was intended to rebuild the piers and tower much as they were before their failure ; but in pulling down the upper part some Norman arches were discovered, which at once suggested that their design should be incorporated in that of the rebuilding, thus raising the tower, which it was further suggested should be crowned by a lofty spire. For this work Mr. Pearson made a very beautiful design, but it was ultimately decided to abandon it, and for the present merely to replace in solid and durable work the form of the "tower and arches, providing, at the same time, what may be necessary as preliminary to heightening the tower, whether by octagon or otherwise."

A more ambitious project has been formed for erecting a grand tower and spire in the churchyard of the magnificent Church of St. Nicholas, Great Yarmouth, detached from the Church. But the cost of this would be great, and the project is in abeyance. In regard to architectural work generally, we may perhaps take the Royal Academy Exhibition as giving a fairly good idea in the abstract, and it will be found that the plain Early English style so much adopted by architects for some years past in the designs for churches is (as pointed out in the last year's "Companion") giving way to the use of later styles, and that when the Decorated is used it is worked out more nearly to the Flamboyant than to the Geometrical. A curious example of this general leaning towards the later styles is shown in the subjects chosen for study by the art students in the Architectural Museum, Westminster. A few years since scarcely any subjects were selected for drawing or modelling but the beautiful foliage, &c., of the 13th century ; whereas now Perpendicular details are preferred almost to the exclusion of all others.

In other buildings, educational or municipal, hospitals or clubs, out of 31 designs exhibited one was half-timbered, 13 were Perpendicular, and 13 of various styles from Jacobean down

to Italian. In regard to private dwellings, shops, &c., out of 41 designs 10 were half-timbered, 11 Gothic (chiefly Perpendicular), 3 Italian, and 17 Jacobean, &c. So that for all such works the Italian style may almost be said to have disappeared, and the use of Pointed architecture for domestic purposes to have been, to a large extent, superseded by the more easily adapted styles of a later time, combining much of the bold outline of the Pointed work, with the details, sadly debased as they too often are, of the Italians.

The general result of the Academy Exhibition is thus given by the critic of the "Times": "The sight of elevations like these" (by E. George and Peto and Mr. Jackson) "gives more pain than pleasure. It suggests the reflection that, if architecture had reached this point thirty years ago, we might have had a South Kensington which was neither dreary nor vulgar." Whatever may be the outcome of this, whether our architects may be inclined or be able to apply it successfully to designs for our greater edifices, there can be no question that much and very effective work is being done in our domestic and commercial buildings, and that a boldness in design has been attained which was sadly wanted in our streets.

A very fair example of the varied state of architectural design at the present time is to be seen in the north side of Lincoln's Inn Fields, London. At the west end is a frontage built (one cannot call it designed) in the flat unadorned style, so well represented in Baker Street, &c. Adjoining this is a new one of stone, all bay windows below and dormers above; five plain houses follow, then come eastwards two red brick Jacobean with gables two storeys high. Next to these are two plain white brick houses, one on each side of Sir J. Soames' Museum, which is of stone, and designed in the quaint style identified with his name. Then follow some plain fronted houses, then a large stone one with a gable (? Romanesque), adjoining which is a building, semi-Gothic, of red brick and stone, the side being continued by several other buildings of various styles and merit, and the whole surmounted, as it were, by the great building, in the Italian style, of the Inns of Court Hotel. Varied as these designs are, the variety can scarcely be said to produce a picturesque effect, and I doubt whether any one would care to spend a few hours in putting their likeness as a whole into his sketch book.

One feature in London, viz., the general flatness of elevation, is the result not so much of feeble power in design as of the restric-

tions imposed by the Building Act. In the amended Bill brought in by the Metropolitan Board of Works some years since, this defect was sought to be remedied by allowing (within certain definite limits as to danger from fire, and to the passenger traffic below) projections over the public street. But the Bill was thrown out on other grounds, and architects are compelled to set back portions of their façades if they require to give a certain prominence to particular features. Nevertheless, there is no doubt that a considerable advance has, notwithstanding all restrictions, been made in late years towards the architectural improvements in our streets. A few years ago it was the distinct belief that a plain brick or cement front to a warehouse, or shop, or place of business of any kind, was likely to attract custom by the contrast of the riches or beauty of that which was within with the sober plainness of the look without. The opposite plan was, if I mistake not, first adopted by the banks and other large business offices in Scotland, and now a poor exterior is regarded, for the most part, more as a sign of poverty than of prudence.

Another cause is the increasing tendency of the times to carry on all trades on a larger scale than of old, thus reducing the number of small establishments of various kinds, much as the increase in the number of great contractors has reduced the number of smaller builders. This may be especially noticed whenever a number of houses are rebuilt, the chances being that one new building will occupy the position of several old ones. Whatever may be the economical, and perhaps political, effect of this change in trading, there can be no question that the result is the erection of buildings of much greater size and importance than before, thus affording to architects a wider scope for testing their power of designing.

The buildings on the Thames Embankment between Waterloo and Blackfriars Bridges are rapidly giving to it a very picturesque effect, although the variation in style is as apparent here as elsewhere. In the immediate foreground is Sir W. Chambers' Somerset House, succeeded (with slight intervals in which some of the old houses appear) by the Tudor offices by Mr. Nicholls and Mr. Boyes, the Arundel Hotel and Norfolk Chambers by Mr. Dunn, the London School Board Offices by Messrs. Bodley and Garner and Robson, the Great Library (Tudor) by Mr. Abraham, and the Temple Chambers (Italian) by Mr. E. M. Barry. Then, after a long interval of the Temple Gardens and

waste ground, comes the City of London School (Italian) by Messrs. Davis and Emmanuel. But the waste space is being rapidly filled up by the City of London School of Music (Italian) by Mr. Horace Jones, and Sion College (Tudor) by Mr. A. W. Blomfield ; and when these are finished, and the statues which are to decorate Blackfriars Bridge are in *situ*, the whole range of the Embankment, varied by the beautiful gardens of the Temple, and with the great dome of St. Paul's crowning the whole, will, notwithstanding the fearfully ugly and prominent railway sheds at Charing Cross and Cannon Street, form a vista in which the citizens of London may take some pride.

It would be well if greater attempt were to be made in the buildings below bridge to add some architectural dignity to the great warehouses and other buildings which line the river there for some miles on each side of it. The Thames is peculiarly situated in this respect, as the low levels of its banks offer to the traveller on the silent highway the sight solely of the buildings which line them ; whereas in others of our great ports the buildings, however uninteresting they may be, are screened, as at Liverpool, by the long ranges of docks, or are made almost picturesque by being situated on such steep acclivities, as on the Tyne. Certainly the merchants of the middle ages had the wish, and their architects the power, to render their great business premises a pleasure to the eyes of their fellow-citizens, and a delight to the stranger who, centuries after, inspects them almost with envy.

At Hyde Park Corner the alterations have been completed, so far as the roads are concerned, but the spaces left vacant between them, irregular in shape and planned without the slightest regard to the effective appearance which might have been made with them in this grand entrance to London, remain as they were, with the simple addition of little notice boards warning people to keep off the grass. Something may be said in praise of the cheapness and simplicity of this decoration ; but there is not a capital or any great provincial city in France or Germany, or even a mere railway station, in which such a state of things would be allowed. Mr. Boehm's model for the statue of the Duke of Wellington has been approved, so it may be hoped that when the statue itself has been erected this defective state of things may be improved.

The author has much pleasure in admitting his obligation to the four architectural journals of London for a great part of the actual facts contained in the annexed detail statements, and for

the valuable information given by the engravings, which explain many of the buildings which the author has been unable to see or to obtain particulars of otherwise.

The descriptions of the styles marked in inverted commas are those of the authors themselves, as given in what appeared to be authorised descriptions.

Amongst the events in the architectural world of the past year it may be noted that Her Majesty's Gold Medal, given by her to the Royal Institute of Architects, was awarded to Dr. Schlieman, who attended in person to receive it.

Mr. Ewan Christian, who has so ably filled the office of President of the Institute during the past session, has been cordially re-elected.

Mr. Alfred Waterhouse has received the long deferred honour of the R.A., but the number of architectural members of the R.A. is still very incomplete.

Appointments.—Mr. E. R. Robson has resigned his appointment to the London School Board, on his being appointed to succeed the late Mr. Rhode Hawkins as Architect to the Education Department of the Privy Council. Mr. Joseph Clarke succeeds Mr. Rhode Hawkins as Architect to the Charity Commissioners, and Mr. T. J. Bailey has succeeded Mr. Robson at the London School Board, at a salary of 600*l.*, increasing by increments of 100*l.* per annum to a maximum of 900*l.* Mr. Ruskin, who has lately suffered severely in health, has resigned the Oxford Slade Professorship, to which he has imparted such interest and importance, and Mr. Herkomer, R.A., has been appointed in his place.

The list of deaths amongst our ranks is this year a heavy one. Foremost in it is Professor Donaldson, whose energy and zeal in all matters connected with his profession were equalled by the earnestness with which he endeavoured to impart his knowledge to all who needed it. A zealous antiquary, an active explorer in Greece and Asia Minor at a time when exploration was almost in its infancy, and for twenty-three years the Professor at University College, he became the friend of most of those, at home and abroad, who were distinguished in any department of art; whilst to his students he was endeared by such acts of kindness as have made his name well nigh revered by the many who have survived him. He died in August, at the good old age of 90.

Mr. M. E. Hatfield, of Sheffield, was one of the number of young architects who assisted zealously in the revival of Gothic

architecture, and executed a large number of works in that style. He recently died at the age of 72.

Mr. John Whichcord, F.S.A., President of the Royal Institute of Architects, travelled as a young man in Italy and Greece, and passed fourteen months in a part of Arabia which has very rarely been visited by Europeans. He had at one time an extensive architectural practice in England, and also in Italy and other places on the Continent.

Municipal and other Public Buildings.—No works of any special character are to be noted as having been carried out in this class; but those at Glasgow have been considerably advanced towards completion. The citizens of Glasgow need not fear a comparison between the design of the chief modern building of their city with that which it is proposed to erect in London for the new Government Offices. Messrs. Leeming's designs for these have been somewhat improved in revision, but the defects in the design, as a whole, are not to be remedied. A model has been made and exhibited by the Office of Works, and shows the defects in plan as well as details still more clearly than in the drawings. Especially prominent in the model is the defective planning in regard to the buildings which will be near to the new offices.

Birkenhead.—The new Sessions Court and Police Offices were begun early in this year, from designs, "in the Italian style," of Messrs. Barry, of Liverpool, at a probable cost of 30,000*l.* The lower part is of granite, and the upper of stone. *Birmingham.*—The Corporation, having resolved to erect new Assize Courts, called in Mr. Waterhouse to report as to the site, amount of land required, and probable cost. He made a report accordingly, sending also sketch plans, necessarily made in connection with it. The Committee strongly urged that he should be appointed architect, but this was overruled, and it has been decided to have a competition, he being selected as Consulting Architect to the Committee. The addition to the Corporation buildings in rear of the present structure is a very good composition by Mr. Yeoville Thomason, and a great improvement to the original. His work at the new Council Chamber (Corinthian) is very bold and effective. The new School of Art in Edmund and Congreve Streets is a very effective design, by Messrs. Martin and Chamberlain, in red brick and terra-cotta, stone being very sparingly used. Where much light is required it is obtained by very wide, bold arches, like an arcade filled in with light wooden sashes. *Eastbourne.*—The

works at the Town Hall are being rapidly carried forward, from the design of Mr. W. T. Foulkes, of Birmingham, but the building is too unfinished, and too much surrounded by scaffolding, &c., to allow one to judge of its general effect when completed. "The design is an adaptation of the Renaissance style," carried out in dark red brick, with stone dressings. The hall is 83 feet by 45. *Garston.*—Drawings "in the Gothic style" have been prepared by Mr. J. H. McGovern, of Liverpool, for public baths, the two main baths being respectively 66 feet 6 inches by 29 feet, and 54 by 29 feet, and the estimated cost 12,000*l.* *Gosport.*—A new building, comprising a public hall and offices for the Local Board, is being erected, Messrs. Davis and Emmanuel being architects. "The style is Flemish Gothic, of plain character." The cost *c.* 8000*l.* *Grangemouth.*—A new Town Hall, designed by Mr. W. Black, of Falkirk, has been opened. "The style adopted is Greek." The hall is 57 feet by 49, accommodating (including gallery) an audience of 870. *Lewisham.*—Public Baths at Forest Hill, designed by Messrs. Wilson and Aldwinckle for the Commissioners, have been erected in "a simple French phase of Renaissance." The baths are each 90 feet by 30. *Ladywell.*—By the same architects other Public Baths, of about the same size as the above, have been erected, at a cost of *c.* 10,500*l.*, "in a Gothic style of design," very freely but effectively treated. *Newport, Monmouth.*—The Town Hall has recently been opened, having been erected from the designs of Messrs. Lansdowne and Lockwood, "in the Italian style." The chief feature is a tower 140 feet high. The building has the disadvantage of not being detached, its main frontage being abutted on by a building on either side. *Paisley.*—New County Buildings for Renfrewshire have been erected from plans by Messrs. Clark and Bell, of Glasgow, "in the Roman style," with Doric columns. The street front is 100 feet long. The Court is 70 feet by 35. The cost about 15,000*l.* *Pendleton.*—New Public Baths, built by the Corporation of Salford, have been opened, the plunging baths being respectively 75 feet by 27 and 44 feet by 25, with dressing boxes 4 feet 6 inches by 4 feet 6 inches along each side and end. There are also 37 private baths. The architect is Mr. L. Booth, of Manchester, his design being "in the Italian style," and the cost *c.* 8000*l.* At *Rochdale* a new Free Public Library has been erected by the Corporation, from the designs of Mr. S. S. Platt, C.E., borough surveyor. "The style is domestic Gothic." The decorations, fittings, and furniture are also from the designs of Mr. Platt.

Railway Stations.—The depth of the Mersey Tunnel approaches below the street levels having required the construction of deep lifts, advantage has been taken of this by the architect, Mr. G. E. Grayson, who, in designing the stations, has made them subordinate to lofty towers, of bold design, which are to receive the lifts when raised. At *Liverpool*, also, the new Exchange Station is making rapid progress, from the designs of Mr. H. Skelmerdine. Its great length, viz., 400 feet, and the use of the ground storey as shops have been architecturally disadvantageous, as they deprive the front of the massiveness required for so important a building, whilst the length, compared with the comparatively small height of the façade, gives it more the appearance of a row of houses than of one large edifice. In the grand central entrance, a part wherein these disadvantages do not occur, the architect has produced a very effective composition.

Clubs.—The works to Mr. Edis' building, the Constitutional, in Northumberland Avenue, are progressing, but are not sufficiently advanced to allow a judgment to be formed as to its design. The drawings, however, show a very picturesque skyline, formed by bold gables, the frontage being broken up by large bay windows, screened by columns. The angle is rounded off, and arcaded on two stories, so as to form a good balcony room. The whole of the façade is being worked in red and buff terra-cotta, with decorations in faience. Mr. Waterhouse's Club, the National Liberal, has a less restricted site than the Constitutional, thus allowing of greater play for the design. A deeply recessed arcade on the ground storey carries boldly projecting bay windows on the two storeys over. The usual grand crowning Italian cornice is omitted, and gives place to ornamental gables and dormers. At the angle there is an entrance tower 180 feet high, which, for a height of four storeys above the ground, is almost plain, recalling to some extent the effect of Mr. Basil Champneys' tower at the Indian Institute at Oxford, in dividing the building into two distinct and separate frontages. The Club will have a library 102 feet by 35, and a dining room 108 by 38. *Birmingham.*—The Liberal Club, in Congreve Street, is a very effective design in red brick and terra-cotta, picturesque, and not too much broken up, by Mr. Cousins. *Huddersfield.*—At Shipley, near this town, the Conservatives have erected a Club-house, "domestic Gothic in style," from the designs of Mr. E. Hughes. *Edinburgh.*—One of the most picturesque buildings of this kind is the Club-room Factor's House, designed

by Mr. Sydney Mitchell (drawing No. 1933 in R.A.). It has an octagonal turret at each end, overhanging the Water of Leith, and a bold square tower on the street side, all composed in the Scotch baronial style of a late date, and combined in a very effective way. At *Southampton* a Club-house for the Royal Southampton Yacht Club has been erected above Bar, in red brick and terra-cotta, "in the style of Domestic Gothic," "somewhat freely treated, with details of a French character," from the designs of Mr. H. H. Mitchell. The billiard-room is 45 feet by 20 feet 6 inches. There is a signalling platform on a tower 90 feet high. *Stockport.*—The Union Club, not political, in St. Peter's Gate, is from the designs, chosen in a limited competition, of Mr. G. N. Willoughby, "in the Queen Anne style of architecture." The cost about 10,000*l.* The club-room is 50 feet by 21 feet 6 inches, and the billiard-room 30 feet 6 inches square. *Warrington.*—The Conservative Club is from the designs of Messrs. Pierpoint and Adams. The cost about 6000*l.* Another at *Wellingborough*, by Mr. Talbot Brown, is in the Queen Anne style.

Hotels.—In London, the Métropôle, by Messrs. Francis, noticed in our last year's number, has been finished and opened. It is one of the largest in Europe, having two main frontages, each of about 315 feet in length, and containing in all about 600 bed-rooms. The spandrels of the principal entrance have been carved by Mr. Armstead, R.A., and tapestry from the Royal Windsor Works has been largely used in internal decoration. The dining-room is 105 feet by 45 feet and 25 feet high. The kitchen is on the fifth floor, top-lighted, and ventilated. The building of the Northumberland Avenue Hotel has been delayed from various causes, and is still partially concealed by scaffolding, but so far as can be judged, the structure (in the Italian style), by Messrs. Isaacs and Florence, will present a façade whose massive pilasters, rising from the one pair level, will give a bold and solid effect, quite unlike that of the other buildings near. At *Birmingham*, the Cobden Hotel, in Corporation and Cherry Streets (containing about 120 rooms on the upper floors), has been completed. It is designed in "the Gothic style, with detail which is somewhat French in character," by Mr. W. Doubleday who has also designed all the principal furniture. The kitchen, larders, laundries, and servants' rooms are on the top storey, a plan now often adopted in hotels and clubs. *Manchester.*—The Victoria Hotel, one of the largest in the north of England, has been opened, having been completed by the Corporation.

The architect is Mr. Dawes, by whom, also, the decorations have been designed, largely in faience and marble. The hotel comprises 151 bed and 34 sitting-rooms, in addition to the principal entertainment rooms, and has also arbitration and sale rooms, and a large café approached by a separate entrance in Deansgate. *London.*—The new building at the corner of the street now being cut from the Regent Circus northward, occupies a very conspicuous position, which is somewhat unfortunate, inasmuch as the line of the main frontage does not appear to range with anything in its neighbourhood, and its elevation deserves to have been treated with more care than it seems to have received; *e.g.*, the angle which presents itself as the most prominent feature in the design is simply a part of the straight frontage bent to a curve, without the least attempt at a special adaptation.

Hospitals, &c.—The chief feature to be noticed in the designs for the larger hospitals during the past year is the system of circular wards, brought into notice, if not designed, by Professor John Marshall, F.R.S. The hospital at *Hampstead*, designed on this plan by Mr. C. Bell, and noticed in the last year's "Companion," was lately opened. Each of the wards (one on each storey) is 50 feet internal diameter, 13 feet high, and arranged for 24 beds (72 in all), one between every two windows. There is a central ventilating shaft, 5 feet diameter, divided into up and downcast flues, the vitiated air being drawn down by means of a hot water boiler on the basement, and escaping by the upcast. On the upper ward floor are 12 bed-rooms for nurses, which are divided off by radiating partitions. At *Seaforth Cavalry Barracks*, Sir A. Clarke has designed a circular ward for 32 patients, and for *Malta*, the same engineer, in conjunction with Mr. Ingress Bell, has suggested a large hospital formed by a series of detached wards, each circular in plan, and each for 26 beds. The wards have covered terraces all round, protecting the patients from the heat. At *Antwerp*, the architects Bilmyer and Van Riel have carried out somewhat the same plan of detached circular wards. There are two storeys of these wards each having 18 beds. The original proposer of this hospital is said to have been Herr Baeckelmans, who, however, died before his plan was carried out. *Bristol.*—A new hospital with 70 beds for sick children on St. Michael's Hill has been erected by Mr. R. Curwen (whose design was selected in competition), in the "Late Perpendicular style," at a cost of *c.* 17,000*l.* It is on the pavilion plan, having, on each

of two storeys, three wards, 30 feet by 20 feet, for 12 beds each. A corridor runs the entire length of the building, and gives access to the wards and offices. At *West Bromwich* the new infirmary is also on the pavilion system, and on two storeys only, for 224 patients. The design is by Mr. W. Henman, being selected in a competition in which Mr. Thomason was referee. The cost is 12,500*l.*

The Lancashire County Asylum, at *Rainhill*, for 1000 lunatics, has been completed from the designs of Mr. G. E. Grayson, in a very free Italian style at a cost of *c.* 166,000*l.*. All the buildings are connected by one main corridor, 1,100 feet long and 8 wide. The laundry is not detached, but connected by a covered corridor with the female block. The water and other towers, very well designed, give a very striking effect to the whole group. The Infectious Diseases Hospital, at *Monsall*, for the City of Manchester Royal Infirmary, are designed by Messrs. Pennington and Brigden, for 240 ordinary and 80 small-pox patients. The wards are in two storeys arranged on the pavilion system, the probable cost 21,000*l.* The Infectious Diseases Hospital, at *Newcastle-on-Tyne*, is on a somewhat different design, being one storey high only. It is in blocks, joined by a corridor 10 feet wide, 10 beds in each block, but with three smaller wards. 2,000 cubic feet are allowed to each bed. The architects are Messrs. Bradshaw and Gass. *Plymouth.*—Mr. F. W. Tasker is the architect to the Home for Aged and Infirm Men and Women, erected in stone, "in the French classic style," at Mannamead, by the Little Sisters of the Poor, at a cost of *c.* 6,000*l.* It is four storeys high. The dormitories are 62 feet by 21 feet. The figure of St. Joseph over the entrance has been carved by Mr. Harry Hems. At *Swanley*, in Kent, Mr. Edward I'Anson has erected for St. Bartholomew's Hospital, a Convalescent Hospital, recently opened by the Prince and Princess of Wales, for 45 males and 25 females. The main building is a plain, well-composed mass, Renaissance in style, with an early English chapel, detached except by a low corridor. The whole cost of the buildings, site, and lodge (*c.* 18,000*l.*), has been defrayed by various charitable persons. Quite detached, and at a considerable distance from the above, though in the same grounds, is a laundry for the linen of St. Bartholomew's, in London. *Tunbridge Wells.*—Another Convalescent Hospital for 35 to 40 children only was recently erected from the designs of Mr. John Ladds, "in a domestic phase of the Gothic style,"

at a cost of over 3,000*l*. The day-room is 32 feet by 18 feet, and the principal dormitories, for 14 beds each, are 32 feet 7 inches by 19 feet 3 inches, other rooms being provided for the elder boys and girls. Earth-closets are used in preference to cesspools.

Virginia Water.—The Holloway Sanatorium was opened by the Prince of Wales "for people of the middle class who are suffering from mental infirmities, but not hopelessly deranged." The number prepared for is 240, besides servants. It is designed in the style of "Early Renaissance of an English type," by Mr. W. H. Crossland, and has the form of a quadrangle, whose principal front is 530 feet long. Over the main staircase is a tower 145 feet high, and there are four smaller towers at the return flanks. The materials are red brick and stone. The suites of rooms are isolated from each other, but are connected by a corridor, and the whole place has been made to look as cheerful as possible by decorative work of various kinds. *Whittingham.*—The new hospital erecting here for the Lancashire justices is by Mr. Laurence Booth, of Manchester, and, like that at Newcastle, is only one storey high, built on the pavilion plan, and quite cut off from the administrative block. The wards are warmed by open fireplaces, and earth-closets are used. 1,400 cubic feet are allowed to each patient.

Domestic Buildings.—Several buildings of note for private use or trade purposes have been erected during the past year in the metropolis. Two of these, viz., the London Joint Stock Bank, in Eastcheap, and the London and County Bank, in Knightsbridge, are especially to be noted as being in a really good Italian style, both designs being well and carefully worked out. A quasi-Italian design by Messrs. Ford and Hesketh, viz., 155 and 156, Cheapside, is divided into separate storeys by separate orders of pilasters; but it has also a good cornice to each, even in the gables. The Cheapside front, described as of "a simple classic design," bears the mark of having been carefully worked out. Another front, viz., by Mr. George Sherrin, in Cannon Street Buildings, described as "a simple treatment of Renaissance," and certainly very free as well as simple, is divided off, like the last named, into separate storeys, but in a much stronger and more marked way, viz., by columns, and is completed by very bold gables and chimneys. The walling is of red brick, and the ornamental parts are of stone, the general effect being very good and striking. Nearly all the other domestic buildings of importance are in red brick and stone or terra cotta, and are Jacobean

or some near approach to it in style, with mullioned windows, bold gables, and details more or less Italian. To condense the words of a popular critic, "The gain in warmth and richness of colour by the adoption of red brick with stone dressings is not to be overrated. The jumble of styles in the details is a point which we say nothing about; this is one of the things which a wise man glances at and passes on. That which is really the definite side in the new experiments is the sky line and the windows."

For trade purposes one of the most noteworthy buildings is that in Oxford Street next to the Pantheon, from the designs of Mr. Collcutt. It has a great expanse of window opening on each storey, but this is so well arranged as not to deprive the front of a solid appearance, whilst the very bold gables and projecting bay window have a very picturesque effect. Quite eastward, a warehouse in Star Yard by Mr. Unsworth, has a good front with one large gable in the Flamboyant style, and is a bold and effective work. Among the most prominent new private houses is that in South Audley Street, by Mr. Wimperis, and one in Grosvenor Square, where the flat surfaces and horizontal lines of its houses are now broken into by the red brick and stone bay windows and gables of the present style. Less prominent in position, but very effective and more carefully studied are the houses at Kensington Court and Collingham Gardens, the designs severally of Mr. T. G. Jackson and Messrs. E. George and Peto, the general character of which is Flamboyant of the Low Countries, even to the ornamental iron ties. Mr. Stevenson's houses at Kensington attract attention at once on entering London from the S.W., and present some very good examples of design and decoration. The very extensive buildings of "Whitehall Court," about to be erected on the Embankment by Messrs. Archer and Green, are at present very little advanced, and the published drawings are scarcely sufficient to give a clear idea of their probable effect. They will adjoin the National Liberal Club, and will provide suites of apartments of from seven to twenty rooms, each complete in itself, and with separate front entrance.

The same mixture of styles which prevails in London is found also in the provinces. At *Dublin*, the Sun Fire and Life Office, in St. Andrew's Street, by Mr. G. C. Ashlin, is a very effective building in the Pointed style, with angle turret and bay window, both corbelled out.

At *Edinburgh*, the Bank of Scotland, by Kinnear and Peddie, is a massive work with a boldly rusticated ground storey in the style of the Florentine Renaissance. The carving to the pediment of entrance door is by Mr. D. W. Stevenson.

A very good design for premises at Scarborough, with bold dormers, mullioned windows, and circular arches with Renaissance details, was exhibited at the R.A. (No. 1870) by Mr. Edward Burgess.

Country Houses.—In the designs for new country houses in England, the old style of semi-Italian or Palladian of the last century has almost disappeared in favour of the earlier styles, whether of Pointed architecture, or of transition to the Italian, or of the half-timbered work of which so many beautiful examples exist throughout the kingdom. There are no houses of special importance to be noted as of recent erection, but many of moderate size and showing creditable powers of design. Mr. H. Ricardo exhibited at the R.A. (No. 1808) a drawing of Westgates, near Charlwood, a quiet Jacobean design, the roofs being finished with plain gables, the whole well composed. In a house at Nottingham Park Messrs. Hine have produced an effective design in red brick and stone in a style which may be termed a free rendering of Gothic. A good point in the plan is that visitors, before entering, have no view into any of the principal rooms. At Pickhurst, Surrey, is a mansion erected from the designs of Mr. J. M. Brydon (R.A. 1796). The external fronts are broken up by many large bay windows and gables, but these are so well massed that the whole effect is quiet and pleasing. Near Tunbridge Wells, the house in Dene Park has recently been designed in red brick and stone by Mr. F. T. W. Miller in late Perpendicular. Two angle turrets afford pretty nooks to the drawing and morning rooms, and form good features in the elevation. In the same neighbourhood a good half-timbered house by Mr. J. N. Johnston was shown at the R.A. (No. 1825). In Yorkshire, a mansion has been erected for Sir A. Fairbairn, M.P., by Messrs. Chorley and Connor, in a Jacobean style, in which bold half-timbered gables are prominently used with picturesque effect. At Eddesbury, West Derby, Mr. J. T. Doyle has designed for Mr. Latham a Jacobean building (No. 1943 in the R.A.) with the now somewhat unusual features of the Italian orders, in two storeys, used to emphasize the front entrance. Up northward, in Inverness, a house is being built at Kinloch Moidart for Mr. R. Stewart

from the designs of Mr. W. Leiper, in the Scottish Baronial style, whose round, conical-roofed turrets, and tall, stepped gables combine to form a very picturesque yet massive building.

Churches.—The report of the Incorporated Society for 1884 gives evidence of the activity of the Church of England, not only as regards churches, but in the use which is being made of a more humble class of buildings, mission rooms, hamlet chapels, &c. It behoves architects, therefore, to put forth their strength in the design of these buildings, which are likely to have a more important effect on the appearance of many a village than even its schools. In designs for the larger and more important series of churches to be noticed in this sketch, Mr. Brooks is one of the leading architects, and adheres to the early English style in which he has done such good work. A good specimen of this is his *St. John's, Kensington* (shown at R.A., No. 1890), the effect of which is very good, depending solely on the bold outline, as the amount of ornament is very slight. It has an apsidal end and an octagonal tower on a square base showing as a lofty lantern internally. A very well proportioned cruciform church is that designed by the same architect for *St. Augustine's, Highgate*, its effect, as in the last named church, depending on the goodness of its outline. In quite a different style, viz., Perpendicular, are Mr. A. W. Blomfield's two churches, viz.: first, that designed for *West Hampstead*, of pleasing proportions, with a very fine west window, and a bold tower at the side; and second, that now being erected in Great Marlborough Street, whose very narrow frontage has not prevented a very pleasing effect being produced by a good north window, corbelled stair turret, and plain tower. At *Parson's Green, Fulham*, a new church has been completed from the designs of Mr. Ewan Christian, and by funds (*c.* 7000*l.*) derived in a somewhat unusual way, viz., the sale of the site of St. Dionis Backchurch, Lime Street, built by Sir C. Wren, and pulled down, 1876, by an Order in Council. Its well known carved oak pulpit, reading desk, and font were reserved for the new church. At *Upper Holloway*, All Saints Church and Parish Room, a pleasing composition in the Perpendicular style, has been designed by Mr. G. E. K. Cutts.

Bournemouth.—The western part of the Bennett Memorial Church for 800 adults, at Branksome Wood, built in the early English style from the designs of Mr. J. L. Pearson, R.A., has been opened. The eastern part has not yet been built, which is to be regretted, as its apses are exceptionally well and pic-

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turesquely designed. The church is transeptal. The nave has the peculiarity (in England) of double aisles, and will have a flêche 110 feet high at the crux. Total cost, *c.* 30,000*l.*

Maidenhead.—A small church is being erected here from the designs of Mr. Leonard Stokes, in the Decorated style. It has merely an aisleless nave and transepts with square end, but deserves notice for the effective treatment of its massive central tower. Mr. Sedding's boldly designed church (also aisleless) at *Sunbury*, with the parsonage house communicating by a corridor, forms a most picturesque group in a style which reminds one more of foreign Flamboyant work than it does of English. The Wilson Memorial Church at *Sheffield*, by Mr. J. D. Webster, has a fine Perpendicular tower, 100 feet high, of the Somersetshire type, and is well designed (though with somewhat meagre details), for its difficult uneven site.

Partly for the same reason as noted under the head of Educational Buildings, the Roman Catholic Churches, &c., in progress or designed during the past year, are both numerous and important. In London the Roman Catholic Church, in Spanish Place, is to be rebuilt on a grand scale, and, putting aside the precedent set at South Kensington of requiring it to be Italian in style, it was decided that it should be Early English. In a limited competition, with Mr. J. Fergusson as assessor, the design by Messrs. Goldie and Child was selected. It is transeptal, with a deep apsidal chancel and five-aisled nave, the outer aisle on each side being screened off as chapels. A marked feature, internally, will be a deep triforium, a practicable "thoroughfare." Messrs. Dunn and Hanson are now erecting a Roman Catholic Church at *Cambridge*, near Downing College, at a cost of *c.* 30,000*l.* The design was selected in a limited competition. It is three-aisled, transeptal, with apsidal end, and low tower at the crux, an antechapel, a tower and spire, 220 feet high, at north-west angle. The whole is in the "early Decorated style, of a somewhat elaborate type."

Durham.—At St. Cuthbert's College, Ushaw, a new chapel has been erected by Messrs. Dunn and Hanson on the same site, and much on the same plan (though on a much larger scale) as that erected by the elder Pugin, except that the new one has an apse in place of the original square end. The interior is now 159 feet long, including the ante-chapel. A large portion of the old work, *e.g.*, the great east window (removed to the west) and the choir windows, have been re-used in the new chapel, the

new work in which has been designed in complete harmony with the old.

At *Liverpool* (Bootle), a Roman Catholic Church, also "in the style of the Early Decorated period," is being erected from the designs of Messrs. Hadfield, in place of the one recently removed by the Lancashire and Yorkshire Railway Company, and will form, with the clergy house adjoining, a very picturesque group.

In *Dublin* an important series of buildings is now being carried out for the Dominican Convent in Lower Dominick Street. They are designed by Mr. J. L. Robinson in the style of the late Decorated, so as to harmonise with the church which was designed by the late Mr. McCarthy. The general plan is that of a cloistered quadrangle, round which are grouped residences for 12 fathers and 8 lay brethren, together with the refectory, library, and other conventual rooms, the cloister openings being glazed. This plan, together with the various heights and arrangements required for the special object of each part, have allowed scope for and produced some very effective treatment.

The Nonconformists are progressing with great zeal in the architecture of their places of worship, and the result would have astonished their forefathers of only a few years back. Take the Baptist Memorial Church, at *Paisley*, as an instance—a building to hold 800 persons, together with a hall, school, &c. With Mr. Sellars, of Glasgow, as assessor, a limited competition of six architects was decided in favour of M. Hippolyte Blanc, whose estimate is 20,000*l*. The church will have nave, aisles, transepts, chancel, and imposing tower at the crux, with an open buttressed spirelet finish, &c., much as at Newcastle, the whole being well composed and carefully worked out in detail. At *Winslow*, Bucks, a very pleasing design by Mr. J. Sulman for a Congregational church and school has been carried out. The building is small, but deserves notice from its effective outline. At *Dalston* a new Synagogue has been erected, at a cost of *c.* 7000*l*., from the design of Mr. N. S. Joseph, "in the Renaissance style." The galleries are arranged as usual for women. The prayer platform and the east end have decorations of ornamental wood, marble, and mosaics.

Colleges and Schools.—Accepting the Metropolis as a starting point, St. Paul's School, at Kensington, must take the lead. It is one of the most effective and well planned of Mr. Waterhouse's buildings, the adjuncts grouping very picturesquely with the chief front. It is built in the pointed style in red brick and

terra-cotta, and presents a mass which seems only to require a contrast with the green of ivy to render its colouring as pleasing as the design. The class rooms, 29 feet by 24 feet, are entered from a corridor well lighted and ventilated. There is a great hall for general assembly *c.* 80 feet by 42 feet, an art school, 40 feet by 40 feet, library, 50 feet by 36 feet, dining hall, 125 feet long for 500 boys, chemical and physical laboratories, &c.

Another very important building, viz., the Guildhall School of Music, has been commenced on the Thames Embankment, close to the City of London School. It is to be erected at a cost of *c.* 20,000*l.*, at the expense of the Corporation, from designs by their Architect, Mr. Horace Jones, "in the Italian Renaissance style," in which style he has done good work in many of the buildings designed by him. It will be in stone and granite, and will have, amongst other accommodation, 42 class rooms and a practice room 70 feet by 28 feet.

A new Board School for 600 children has been erected in St. George's Road, Southwark, and has produced a statement as to the cost of these buildings. The cost of this school, exclusive of the site, is at the rate of 12*l.* 1*s.* 6*d.* per head.

The extensive buildings at Red Hill for the St. Anne's School, lately located at Brixton, have been completed from the designs of Messrs. Crickmay "in the Queen Anne style," at a cost of *c.* 40,000*l.* They accommodate 600 children. The dormitories have 20 to 30 beds in each. The buildings comprise covered playgrounds, gymnasium, swimming bath, isolated infirmary for 50 patients, and detached chapel. All the staircases and corridors are fireproof.

Bangor.—The large Hotel has been rearranged and additions made to it in the same (Italian) style, under the direction of Mr. Richard Davies, in order to adapt it as a habitation for the University College of North Wales. It comprises lecture rooms and theatres for English, classical, and mathematical teaching, and for modern languages, library, physical and chemical laboratories in a wing 120 feet by 80 feet, and lecture theatre, dining hall, and all other accommodation required both for male and female students.

Brighton.—The College buildings designed by Sir G. G. Scott have received important additions from the designs of Mr. T. G. Jackson. These comprise a boarding house for 40 boys, an entrance tower, and other accessories, the college when complete being intended to form one large quadrangle. The new

entrance tower, bold and rich as compared with the quiet design of the houses adjoining, together with the chapel and hall, form a very effective composition in good Perpendicular work.

At *Cambridge* the buildings forming the third side of the south court of King's College, comprising a lecture room, &c., are being completed from the designs of Mr. W. H. Fawcett, and form a very pleasing composition in the Perpendicular style. At Cambridge, also, the buildings for the new Chemical Laboratory, designed by Mr. J. J. Stevenson, opposite Pembroke Lodge, are on a very large scale, and will be especially noticed as being of a very different style from that of the last-named building, and the new buildings of Jesus, &c. The arrangements are of a very comprehensive kind, and comprise lecture rooms (the largest for 204 persons and the two smaller 29 feet by 24 feet), laboratories for 175 students, and all other accessories required. The estimate, including the requisite fittings and machinery, is *c.* 31,000*l.*

Coventry. — New buildings have been erected for Henry VIIIth's Grammar School "in the Tudoresque style," from the designs of Mr. E. Burgess, at a cost of between 20,000*l.* and 30,000*l.* There is a section for boarders, comprising a dining hall and sleeping accommodation for 80 boys, also a master's house connected with, and an infirmary quite isolated from, the school.

Halifax.—A very important building for the School Board at Halifax is being erected from the designs of Messrs. Horsfall and Williams, for 1500 scholars, at a cost of *c.* 16,000*l.* There are 20 class rooms, 20 feet by 20 feet, for 40 scholars each, besides five larger ones. The rooms are entered from a large central room. The building is plain (Queen Anne), but massed in such a way as to be effective as a whole.

Manchester.—The central Board Schools in Deansgate, recently erected from the designs of Mr. H. Lord, for 1300 boys and girls, are five storeys high above ground, and are built of red brick and stone in "the early Gothic style." In addition to the ordinary school and class rooms, they comprise a large gymnasium occupying the greater part of the ground floor, rooms specially adapted for freehand and for mechanical drawing, chemical laboratory, balance room, and lecture room for 80 students, large dining room, &c. The large school rooms can be divided off by revolving shutters, and the senior boys' class rooms (seven in number) are parted by glass screens only.

Oxford.—The buildings for the new quadrangle at Trinity

College, designed by Mr. T. G. Jackson, are Jacobean, with very high gables, carrying out somewhat the ideas of his other work at Oxford. His new buildings in Merton Street for Corpus Christi College, shown at the Royal Academy in drawing No. 1889, are very late Perpendicular work freely treated with bay windows and gables. The Indian Institute, by Mr. Basil Champneys, mentioned in our last number, is completed.

Places of education and of worship for the Roman Catholics are now being built or adapted to an unusual extent in Britain, owing in part to the expulsion of the Monastic orders from France. At *Scarborough*, the nuns of the order of Dames de Marie have caused the erection of a convent school, three storeys high, with a spacious chapel, school and class rooms, dormitories, &c., at an expense of about 15,000*l.*, from the designs of Mr. F. A. Walters. At *Stonyhurst*, the great Northern college of the Jesuits, extensive additions are in progress, the outlay being *c.* 100,000*l.* The chapel is of a highly ornate Perpendicular design, whilst the remainder is stated to be in the Queen Anne style. At *Glasgow* the Jesuit College of S. Aloysius, for 300 students has been erected from the designs of Mr. A. Macpherson, of Edinburgh, "in the Italian Renaissance style." The above form a portion only of a very extended scheme.

Other Buildings of various kinds for Study, Recreation, &c.— The foundations have been laid for the new buildings for Sion College, which will have a frontage of 75 feet to the Thames Embankment. It will be built of red brick and stone in the style of late Perpendicular, from the designs of Mr. A. W. Blomfield, M.A., and will form a very interesting, as well as pleasing, addition to the river frontage. In East London the grand scheme suggested by Mr. W. Besant in his "All Sorts and Conditions of Men," appears likely, with the welcome assistance of the Beaumont Trust, to be realised. A design has been furnished by Mr. E. R. Robson, the assumed cost of the building being 63,000*l.* Mr. Besant's wish is to have the Institution available for women as well as men, and on the same principle as those which have proved so highly successful at Saltaire. Another building (Toynbee Hall) in the same locality marks the University settlement, the success of which will be studied with great interest and some anxiety. The buildings are of red brick and stone, are designed by Mr. E. Houle, and comprise lecture hall, and residential rooms for 20 residents, all young men, willing workers from the Universities.

Aberdeen.—The new Art Gallery, Museum, and School of Science, built from designs (selected in competition) prepared by Messrs. Matthews and Mackenzie, in "the style of the Italian Renaissance," were opened last winter. They are constructed of granite and pink stone, and are very extensive, the first having a frontage of 130 feet, and the latter, presented to the city by Mr. R. Gray, one somewhat less. An archway, uniting the two buildings, has since been erected from the design of the same architect.

At *Chester* the building of a new Museum of Natural History and Archæology, with Schools of Science and Art, was commenced in the beginning of this year. It comprises also library, lecture, and reading rooms, and galleries for pictures, &c. The architect, Mr. J. M. Lockwood, of Chester, has designed it "in the style in vogue during the seventeenth century," the materials being red brick and stone. The tender was for 8,150*l.*

At *Exeter* the Albert Museum has been extended by the addition (much needed) of two rooms, each 65 feet 6 inches by 29 feet 6 inches, for library and fine art gallery.

Edinburgh.—Designs by Mr. Rowland Anderson, in the style of the Gothic of the latter half of the thirteenth century, have been adopted for the Scottish National Portrait Gallery and Antiquarian Museum; the site is in Queen Street. In the portrait section there will be three galleries (one on each floor), each 82 feet by 26 feet, and two other large rooms, the museum will have three galleries of the same size as the above, with three other large rooms. The hall will be 44 feet square.

A Public Institute, Library, School of Art, Picture Galleries, and Museum have been erected at *Leek*, at the sole expense of Mr. J. Nicholson, from the designs, "in a somewhat severe and refined method of Renaissance," of Messrs. Sugden, of Leek, the cost being *c.* 30,000*l.*

At *Newcastle-under-Lyme*, designs by Messrs. Sugden have been selected for Free Library, Assembly Rooms, &c., in an open competition, the assessor being Mr. Lockwood, of Chester, and the proposed outlay *c.* 13,000*l.* The design is somewhat in the style of Flemish late Gothic.

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College, designed by Mr. T. G. Jackson, are Jacobean, with very high gables, carrying out somewhat the ideas of his other work at Oxford. His new buildings in Merton Street for Corpus Christi College, shown at the Royal Academy in drawing No. 1889, are very late Perpendicular work freely treated with bay windows and gables. The Indian Institute, by Mr. Basil Champneys, mentioned in our last number, is completed.

Places of education and of worship for the Roman Catholics are now being built or adapted to an unusual extent in Britain, owing in part to the expulsion of the Monastic orders from France. At *Scarborough*, the nuns of the order of Dames de Marie have caused the erection of a convent school, three storeys high, with a spacious chapel, school and class rooms, dormitories, &c., at an expense of about 15,000*l.*, from the designs of Mr. F. A. Walters. At *Stonyhurst*, the great Northern college of the Jesuits, extensive additions are in progress, the outlay being *c.* 100,000*l.* The chapel is of a highly ornate Perpendicular design, whilst the remainder is stated to be in the Queen Anne style. At *Glasgow* the Jesuit College of S. Aloysius, for 300 students has been erected from the designs of Mr. A. Macpherson, of Edinburgh, "in the Italian Renaissance style." The above form a portion only of a very extended scheme.

Other Buildings of various kinds for Study, Recreation, &c.— The foundations have been laid for the new buildings for Sion College, which will have a frontage of 75 feet to the Thames Embankment. It will be built of red brick and stone in the style of late Perpendicular, from the designs of Mr. A. W. Blomfield, M.A., and will form a very interesting, as well as pleasing, addition to the river frontage. In East London the grand scheme suggested by Mr. W. Besant in his "All Sorts and Conditions of Men," appears likely, with the welcome assistance of the Beaumont Trust, to be realised. A design has been furnished by Mr. E. R. Robson, the assumed cost of the building being 63,000*l.* Mr. Besant's wish is to have the Institution available for women as well as men, and on the same principle as those which have proved so highly successful at Saltaire. Another building (Toynbee Hall) in the same locality marks the University settlement, the success of which will be studied with great interest and some anxiety. The buildings are of red brick and stone, are designed by Mr. E. Houle, and comprise lecture hall, and residential rooms for 20 residents, all young men, willing workers from the Universities.

Aberdeen.—The new Art Gallery, Museum, and School of Science, built from designs (selected in competition) prepared by Messrs. Matthews and Mackenzie, in "the style of the Italian Renaissance," were opened last winter. They are constructed of granite and pink stone, and are very extensive, the first having a frontage of 130 feet, and the latter, presented to the city by Mr. R. Gray, one somewhat less. An archway, uniting the two buildings, has since been erected from the design of the same architect.

At *Chester* the building of a new Museum of Natural History and Archæology, with Schools of Science and Art, was commenced in the beginning of this year. It comprises also library, lecture, and reading rooms, and galleries for pictures, &c. The architect, Mr. J. M. Lockwood, of Chester, has designed it "in the style in vogue during the seventeenth century," the materials being red brick and stone. The tender was for 8,150*l.*

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irregularity of the site has been skilfully made use of in forming the great hall for the reading room (which is a large octagon), and in very picturesque planning in other ways.

York.—New buildings for the Institute of Art, Science, and Literature, in Clifford Street, were opened early this year. They are designed by Mr. W. G. Penty, of York, in "the style of the French Romanesque of the twelfth century," and are constructed of red brick and terra cotta at a cost of *c.* 8000*l.*

The annexed list shows the extent to which works are being carried on in different parts of the kingdom, by Government officers:—*Edinburgh.*—Plans have been accepted from Mr. W. W. Robertson, of Her Majesty's Office of Works, for completing the Museum of Science and Art, according to the design made by Captain Fowke, and already partially carried out. The side facing George IV bridge, will, however, be somewhat more ornate. *Exeter.*—A new Post Office, designed by Mr. E. G. Rivers, of Her Majesty's Office of Works, has been erected in High Street, at a cost of about 12,000*l.*, exclusive of fittings. "It is in the Gothic style," of Portland stone, with polished granite columns. *Glasgow.*—The New Inland Revenue Offices in George and Frederick Streets by Mr. W. W. Robertson, of Her Majesty's Office of Works, Edinburgh, "are in the Italian style," with dormer windows. The cost is about 25,000*l.*, including fittings. *Halifax.*—The new Post Office about to be erected in Commercial Street, "in the Gothic style," is from the designs of Mr. H. Tanner, of Her Majesty's Office of Works. The public office is 40 feet by 16 feet. On the upper floor are the telephone and telegraphic departments. *Plymouth.*—The new Post Office, in the Guildhall Square, has been designed in the Pointed style, by Mr. E. G. Rivers, of Her Majesty's Office of Works.

Decoration.—The two designs exhibited *in situ* for the decoration of the dome of St. Paul's have not been considered satisfactory. Each was based to a considerable extent upon the general outline suggested by Mr. Stevens. Other suggestions have been put forward by Mr. J. P. Seddon and Mr. Armitage, R.A. The former discards the idea of sub-dividing the expanse of the dome into distinct upright sections, and suggests a subject composed of five rows of angelic beings, taking the whole subject in one grand sweep. Mr. Armitage's design, shown in the Royal Academy, No. 1951, is likewise altogether different from that of Mr. Stevens, and illustrates the Te Deum. He suggests that the background of the angels in the dome should

be of a light silver grey. The Decorations Committee have, however, decided to abandon the decoration of the dome, and to concentrate their present efforts on the enrichment of the choir, for which the Dean and Chapter had some time since accepted a design by Messrs. Bodley and Garner for a grand reredos. Other decorative works to be noticed are designs for stained glass windows for Jesus College and for Hampstead Church by Mr. Burne Jones, of other stained glass for St. Nicholas Cole Abbey by Messrs. Campbell and Smith, and of windows for St. Margaret's Mansions, Victoria Street, by Messrs. Gibbs and Howard.

In a far-off home in Newport, Rhode Island, U.S., Mr. Walter Crane has executed a fine series of decorative mural and glass painting.

There are no competitions of any great importance to record for the past year, but a notable one is announced for the Birmingham Assize Courts, Mr. Waterhouse being named as the consulting architect to prepare the conditions, &c. One fact, however, has to be recorded as to the last year's competitions, viz., that the employment of architects as assessors has now become the established rule. Out of twenty-one cases known to the author such assessors were appointed in sixteen, the remaining five being of small importance.

Two of the most noteworthy of the competitions have been for sculpture, viz., in the city of London for the decoration of Blackfriars Bridge, and at Aberdeen for the Wallace Memorial. In the former case a limited competition of five sculptors resulted in the award to each of 100 guineas, and in the decision that Mr. Brock and Mr. Birch should each execute a group, and in the latter a model by Mr. W. G. Stevenson was selected out of 25 designs submitted by various sculptors, Sir Noel Paton and Mr. R. Anderson being the assessors, the authors of the two designs placed next being awarded 50 guineas each.

At Paisley a limited competition of six architects took place for a memorial church to seat 800 persons, at a cost of 20,000*l.*, the conditions being somewhat remarkable in the very distinct instructions as to the working out of the designs, which were to be "in the Gothic style, a perspective view of St. Andrew's Church, Redruth, Cornwall, being sent to each competitor as a model for the outside, but to be improved upon, if possible." The successful competitor was M. Hippolyte Blanc.

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Catholic Church in St. James' Place, London, Mr. J. Fergusson was the assessor, and paid a very high compliment to the several authors, "for the high standard of average excellence which has been attained in their production." Messrs. Goldie and Child's design was chosen, as already noted in preceding pages. In this case also the style Early English was dictated, but without such a suggested imitation as at Paisley.

At Amsterdam a very important international competition has been decided; 200 designs were submitted, which are thus characterised by Mr. R. P. Spiers, British juror: "about 30 were nondescript in style, and about 20 Gothic, the remaining 150 being in phases, more or less pure, of the Renaissance style." Five designs were selected for a final competition, two of the authors being German, two Dutch, and one French. The final decision was given in favour of M. Cordonnoir, of Lille. "All the five designs were Dutch or Flemish in style, and to be erected in brick or stone in harmony with the surrounding buildings."

An interesting memorial, a sculptured monolithic shaft and cross, 11 feet high, designed by Mr. Roddiss, of Birmingham, has been erected at the cost of Lord Granville (Warden of the Cinque Ports), at Ebbs' Fleet, near Sandwich, to commemorate the landing there of St. Augustine. The statue of Queen Anne, in St. Paul's Churchyard, having long been in a dilapidated condition, the city has decided to "erect a replica of the entire group in Sicilian marble," at an estimated cost price of 1,800*l*., and Mr. Belt has been selected as the sculptor. The Wellington Statue at Hyde Park Corner has been taken to pieces, and a prominent site at Aldershot has been chosen for its reconstruction. The work for the pedestal, designed by Mr. R. W. Edis, is in progress. At Aberdeen a memorial to Sir W. Wallace, in the form of a statue, in bronze, on the colossal scale of 16 feet, is to be erected, Mr. W. G. Stevenson being the sculptor (in competition).

But the grandest statue to be mentioned as of this year's work is that of Liberty (to be erected on an island in New York Harbour), designed and executed by M. Bertholdi, of Paris, and said to be the largest ever made, being 151 feet from the base to the top of the head, *i.e.*, 6 feet higher than the reputed height of the Colossus of Rhodes. It is built up of sheets of bronze, as are the two great statues of Carlo Borromeo, in Italy, and of the Virgin at Le Pay, and like them will have a staircase inside. For a memorial of Archbishop Tait a sum of nearly

12,000*l.* was collected, and, in addition to a restoration of Lambeth Palace Chapel, and a bust in Westminster Abbey, by Mr. Armistead, R.A., an effigy and altar-tomb, by Mr. Boehm, R.A., and Mr. J. O. Scott, have been executed.

The memorial to the late M. Gambetta is to consist of an obelisk with a group of emblematical figures round a statue to him. It is to be erected in the Place de Carousel, the artists being Messrs. Aube and Boileau.

Restorations.—The chief work during the past year has been that of Peterborough, as already stated; but many works of a very interesting kind have been undertaken and completed in other places. The most important work in London, though scarcely noticed, is the work at the Tower, where reconstructions on a very extensive scale have long been proceeding. They are under the direction of the Office of Works, one of the last portions completed being the Lanthorne Tower, which is stated to have been rebuilt on the old foundations, and reconstructed from old sketches. There is no reason to impeach the capacity of Mr. Taylor, to whom the work was entrusted, but in most other countries the whole subject would have been considered of sufficient interest to have required the matured opinion of archæologists.

A supreme indifference to the antiquities of London has been shown by the Metropolitan Board of Works in regard to the York House Water Gate, the preservation of which was urged on them by the Council of the Royal Institute of Architects. At present almost hidden by the raised garden around it, it would seem easy to those accustomed to such works to raise it bodily without injury. It was decided by the Board, by 23 votes to 12, to take no action in the matter.

At St. Albans' Abbey the works carried out by Sir E. Beckett are rapidly approaching completion. A very ornamental design for the south transept of Chester Cathedral was exhibited at the Royal Academy, No. 1788, by Mr. A. W. Blomfield. The central window has rich decorated tracery, with a range of canopied statues at the base, and also round the sides and in gable above the great window. *Coventry.*—The works to the tower and spire of St. Michael's are being proceeded with. Sir G. G. Scott reported many years since that the fine interior of the magnificent tower was originally open to the church, and visible from within to the height of about 100 feet from the pavement, the whole being covered by a fine groined roof, and he

suggested that this great feature of the church should be restored to its original state. At *Edinburgh* Mr. Gladstone has offered to restore, at his own expense, the City Cross at the east end of St. Giles', and this offer having been accepted a design was prepared for him by Mr. Sidney Mitchell, which has been approved by the Town Council, and is to be commenced forthwith. But the design is said to reproduce that of the Jacobin Cross, erected in 1617, and not the original Gothic one. Some slight alterations are proposed to be made to the Castle by way of restoring portions of it to its original state, and it is said that the improvements, although small in extent, "are designed with great taste, and will add much to the picturesque appearance of the buildings." At *Sherborne Abbey*, during the restoration of the tower, under the care of Messrs. Carpenter and Ingelow, an arcade hitherto plastered up has been discovered over the great arches, as if supporting the fine fan-groined ceiling.

The restoration of the church of *Stratford-on-Avon*, the burial place of Shakespeare, requiring therefore the most tender care, has been placed under the charge of Messrs. Bodley and Garner, who recommend that all the historical features should be most strictly preserved. The north and the south transepts are to be opened out, the galleries in the nave removed, &c., and the works are being carefully proceeded with. At *Great Yarmouth* the old Toll-House, formerly the Town Hall and common Prison, was to have been pulled down, but this act of Vandalism being strongly opposed, it was decided to have the old building restored, under the direction of Mr. L. Brook and Messrs. Bettle and Olley; and now that the partitions have been removed, and the windows and the open-timbered roofs repaired and opened out to view, the stoutest opponents of the restoration must admit that the result is most satisfactory.

A series of restorations, with which we are as a nation intimately concerned, although in a foreign land, has been attempted in Egypt, in order to prevent the demolition of some of the finest monuments of Saracenic work in Cairo, which, owing partly to panic in regard to their safety, and partly to a desire to sell the old materials and sites, had been threatened with destruction, in spite of the efforts of the Commission instituted in 1882 for the preservation of the monuments of Arab art. Fortunately, at the last moment, the Khedive came to the support of the Commission, and made a grant of 4000*l.*, and this, though a comparatively small sum, may by economical and

judicious conduct of the architect be stretched out to cover a large number of small but invaluable repairs, and may secure many a noble monument from destruction.

Excavations.—The ancient works brought to light during the past year have not been, except in a few instances, of first rate importance, but many interesting portions have been discovered.

At *Bath* the excavations have been continued by the Corporation, and a second Roman bath, adjacent to that already exposed, has been partly unearthed. It is oval in plan. From what can be at present seen it must have been magnificent.

At *Canterbury Cathedral* remains found during the work of cleansing out the crypt occupied by the French Huguenot church have proved to be portions of the shrines of St. Dunstan and of Prior Bradwardine, and possibly of Becket. At *Deerhurst House*, a small house about 30 feet long, the four external walls of which are perfect, and which is believed to be Saxon, has been found built up in a farmhouse, near the Saxon Church, dating from 1056. In *Holderness*, on the east coast of Yorkshire, a lake dwelling has been disinterred, being the first found in England, although such dwellings are well known in Scotland and Ireland. It is of the earliest type, viz., that known in Ireland as the Crannoge, being an artificial island 75 feet by 50 feet, built up with brushwood, secured by stakes, and connected with the adjacent land by rough bridges of trunks of trees.

On the Continent the excavations have been, as might be expected, on a larger scale.

At *Rome* those at and near the House of the Vestals, alluded to in our last, have been singularly interesting. They appear by the stamps on the bricks to have been built in Hadrian's time, but the upper storeys are supposed to have been restored after the fire in 191. The house consisted of a large atrium with open peristyle, and rooms all round, two and three storeys high, with floors and wall linings of marbles or mosaics, some portions of which are still in their original positions. Those rooms on the lower storey which were exposed to damp have the floors supported by large wine jars cut in half, and one of the upper floors is formed of a slab of concrete, 20 feet wide and 14 inches thick. A number of portrait statues of the Vestals were also found.

The ruins of the Rostra have been laid bare, showing the holes in which the bronze beaks of the Latin ships were fixed; and portions of the marble lining, plinths, and cornices, &c., have been found, some *in situ*.

Close to the Temple of Vesta have also been found the remains of a Christian church, supposed to be of the 10th or 11th century. In the Alban Hills, some 18 miles from Rome, Mr. R. P. Pullen has been making excavations on a site which he visited in 1877, and which appears to be that of Lanuvium. Here, amidst some remains of an open colonnade, he found the remains of a quadriga of Parian marble of decidedly Greek character, together with the torsos of six Roman warriors of late Roman type.

In *Greece* a good deal of work is being done in various places by the Greek Archæological Society at Eleusis. The site of the temple has been further excavated, and distinct trace found of the earlier temple which was burnt by the Persians. It had five rows of pillars, five in each row, and was situated at the north-east corner of the later building. The excavations at Olympia are being continued, with the intention of bringing back the whole site to the original level. The local museum, alluded to in last year's "Companion," is now roofed over, and is being plastered. The German Archæological Institute has laid bare at Sunium the remains of the Temple of Athena, the long side of which, it is found, had 13 columns, in place of 12, as hitherto supposed. Large portions of the frieze, if not the whole of it, have been recovered, although the sculptures have been much injured.

Important explorations have been made at Assos by some American archæologists, who have found a large number of ancient Greek buildings, including baths, four of which have 26 bathing chambers on each of two storeys, the only instance recorded.

Efforts have been made to establish a British School of Archæology at Athens, towards which the Marquis of Bute has contributed 500*l*., and the attempt has been so far successful that it is now decided to erect a building on a site given by the Greek Government on the slope of Mount Lycabettus, and this work is now in hand. The objects include the study of Greek art and architecture, inscriptions and explorations, and all branches of research which can illustrate Hellenic life and literature. The effort merits every success, for certainly in researches in Greece proper our nation has lost of late years the lead which it had in the time of Stuart and Leake. Mr. Penrose has recently visited Athens in connection with the above scheme, and no more scholarly and fitting architect could have been selected.

At Phocis the French have, in a similar way, laid bare the plan

of the little Temple of Athena near Elatea, and discovered many of its architectural remains. It was Doric, and somewhat larger than the above temple at Sunium.

Some ancient and very interesting Greek work has been discovered by M. Flinders Petrie quite away from Greece itself, viz., Nebrieh, in Egypt, proved by his researches to have been the famous Naucratis, founded in the 7th century B.C., and almost Greek from the first.

A few fragments have been found of the first temple of Apollo, destroyed by the Persians, and not much of the marble one erected in its place. But there are rich remains of colouring in red and blue on some of the marbles. The narrow streets of the old city, about half a mile long, can still be identified. A great inclosure, 600 feet square, with walls 30 feet thick, contains one large stone building of Ptolemy II, and has a deposit at each course of foundation with his name, together with tools and materials.

But the greatest "find" is a series of fragments of vases, from B.C. 700 to 400. Their discovery, showing Pancratis to have been one of the centres of Greek art, is invaluable.

A considerable amount of work has been done by Mr. Maspero in disinterring remains of the old Egyptian monarchies, the most important effort being the clearing away the mass of sand, rubbish, and hovels, which well-nigh concealed the beauties of the great temple of Luxor, many portions of which are of exceptional interest.

At Edfoo the necropolis has at length been discovered, but nearly all the tombs had been rifled. The inscriptions, as might have been expected, are chiefly of the Ptolemaic era.

At Ekhmeun another and "hitherto unsuspected necropolis" has been discovered, and is remarkable as containing a large number of what may be termed "subterraneous dwellings," "not family vaults, but the resting places of persons in 'no wise connected,' of any who could afford the rent." Their dates range from the time of the Pyramid builders to the latest Greek epoch. Many of the Greek mummies present an entirely new type, being stuccoed over and painted, so as to be, in short, statues of the persons, dressed as in life for some great occasion.

The Boundary Survey of Afghanistan has added to our archæological knowledge in that little accessible part of Asia. Near Rudbar was the plain covered with the ruins of large cities of three distinct periods, chiefly built of bricks. The first

are of the old Persian kind, and are now resolved into immense mounds of clay. In the second period the bricks were burnt, and the valley is covered with bits of red and yellow brick. These appear to date from about the 16th century. The third period is marked by lofty mud walls in fair preservation. A building, supposed to occupy the site of the palace of Cyrus's mother, is a good specimen of this later period, being a large quadrangular building with high towers at angles and bastions flanking the walls, and containing a hall of audience, mosques, inner citadels, &c. This and other buildings were probably destroyed by Nadir.

France.—A new building, to be erected in Paris, is the École Centrale (Rue Mongolfier). The architect was originally M. Demcineriot, but on his decease M. Deuper was appointed in 1882. It is a building of three main storeys, containing places altogether for nearly 700 students. On each storey is a lecture hall for from 300 to 350 persons, and 20 class rooms, the number of students provided for in each being for the most part 12, whilst some hold as few as 4, an exceedingly small number compared with the ordinary accommodation. There are laboratories for 112 students.

The new Post Office at Paris, commenced in 1879 from the designs of M. Guardet, will deserve special notice when completed. It has a frontage of about 230 feet towards the street.

Arrangements for the great Exhibition of 1886, are now assuming a complete form. As at present arranged, the example of reproducing our "Old London," and the Turin example of the old Midmonten Castle, will be followed in a very striking manner.

At *Brussels* the well-known Maison du Roi, which was said to be in a dangerous state, has been reconstructed on its old lines at a cost, it is said, of about 50,000*l.*

Amsterdam.—The new Museum and National Gallery, erected from the designs of the well-known Dutch architect, M. Cuypers, has recently been opened. "Its style is stated to be that of the Dutch Renaissance," a term which would certainly not convey a clear idea to English eyes of the actual general composition or details. The ceremony of the opening was one of peculiar interest to architects, inasmuch as M. Cuypers was then presented with a gold medal in commemoration of his work.

Buda-Pesth.—The new Hungarian Parliament House, now being erected on the Schofferplatz, was designed by Prof.

Emmerich Steindl, in the Pointed style. Its total length is stated to be 852 feet by 377 feet.

The halls for the Upper and Lower Houses are each 80 feet by 73 feet, and are connected by a central chamber about 66 feet diameter. The river front is marked by a series of bold arcades and strongly projecting buttresses. The halls and central chamber are made prominent objects in the elevation.

Leipzic.—The Gewandhaus or Cloth Hall has recently been rebuilt. The designs of Messrs. Gropius and Schmieden, of Berlin, were originally selected in competition, but on the death of the former gentleman the design was remodelled, and ultimately carried out by Messrs. Goldschmidt and Altgelt.

The exterior is strictly classical and very boldly designed. The interior is much more free in outline and details, being quite Italian, and scarcely so satisfactory in effect.

The new University, opened last winter, was erected from the design of Prof. Warth, of Karlsruhe, which was chosen in competition.

Athens.—To the numerous buildings already erected in Greece by the liberality of her countrymen must soon be added one for the reception of the National Library, at present in the University Buildings. The new building is designed by Mr. Hansen, whose work is so well and favourably known both at Athens and Vienna, and will be erected at the cost (about 40,000*l.*) of M. P. Vallianos.

St. Petersburg.—The votive church erected at St. Petersburg in the place where Alexander II was assassinated is in the Old Russian style as developed in Moscow, with the swelling domes of Byzantine details, and is in strong contrast with the style of the great church of St. Isaac. If the drawings of it yet published represent the general effect correctly (as no doubt they do), the whole edifice may be described as composed of a number of towers, one being of the enormous height of 367 feet, overshadowing a small Byzantine church. The general effect will no doubt be very striking, but it is somewhat saddening to think that this last—one of the most important monuments noted in this long series—should record the commission of a great crime.

T. Hayter Lewis.

THE ART EXHIBITIONS OF THE YEAR.

THERE is nothing very new or very startling to record in a review of the pictures of the year. A great deal of very pleasant and clever work has been produced, but it has been mainly on old lines. This is scarcely to be regretted, for the many new impulses which have agitated the art world during the last quarter of a century have still enough vitality to prevent, for the present, any fear of the old stagnation, and extravagance will only be missed by those who seek rather for novelty and excitement than for good art. Pre-Raphaelitism, neo-mediævalism, æstheticism, impressionism, the grand poetic realism of Millet, the grand prose realism of Courbet, the experimentalists in colour like B. Constant, the *bric-à-brac* gaiety of the Fortuny School, the invasion of Dutch art into Venice, and the old world of Rome, as seen in the pictures of Van Haanen and Alma Tadema, the rich colour of the Munich masters, the domestic sentiment of those of Holland, all these and many other more or less new phases of art have had and still have their influence in our exhibitions; but the influence is less direct, there is more assimilation of what is good, and less imitation of what is merely eccentric. On the other hand, no one has risen to take the place of those powerful leaders of art who have been removed from us —no new Rossetti or Millet—and death has taken away within the year one who had already moved many and was likely to move many more. Bastien Lepage, one of the most sincere and original of painters, as well as one of the most powerful and dexterous, is dead, and his death is as great a loss to the modern school of England as it is to that of France. Like that of other men of strong personality and great skill, his example was, perhaps, followed "too well" by those dazzled with the brilliance of his work, but what has been learnt from him will not be forgotten, and will add substantially to the beauty and the value of the art of the future. The result generally of the many theories and potential examples which have agitated the world of art of recent years has been a great enlargement of its resources, a wholesome liberation from its conventions, a palpable increase in average skill, and, perhaps above all, a tendency to sincere self-expression. In other words, painters paint what they like, rather than what other people like, and though there

may be little in their work which stirs us profoundedly, it is singularly free from false or borrowed sentiment. It may be also said that though the aims of painters have never been so diverse, there has never been so much tolerance, and that if genius is rare it is not for want of a fair field. On the whole we may be well content with the progress made by English artists of late years, and with the present condition of English art. The reputation of the latter on the Continent is greater than it has ever been, and the "English School" has been at last and fully recognised by our French neighbours, as is shown by more than one work devoted to the subject, notably that of M. Ernest Chesneau. The most thoroughly worthy and successful exhibition of the year was that of the Royal Institute of Painters in Water Colours, probably the finest collection of the works of living artists in this method that has ever been seen; but if there was less satisfaction given by the annual show of the Royal Academy it was in a great measure due to the contrast between the works of some of the Academicians which crowded the line with better, if more modest, performances of less favoured and younger artists. This is itself an encouraging symptom, for it is doubtful whether the contrast would have been so perceptible or have been so generally perceived some few years ago. It points to an improved standard amongst both artists and public.

As usual, both the Royal Academy and the Grosvenor Gallery devoted their Winter Exhibitions to the works of deceased artists. At the former the collection was miscellaneous, at the latter Sir Coutts Lindsay did for Gainsborough what he had done for Reynolds the year before. The gem of the collection at Burlington House was Mabuse's "Adoration of the Magi," lent by the trustees of the Earl of Carlisle. This picture is the *chef-d'œuvre* of the artist in his purest Flemish manner, before his style had suffered from Italian influences. It is of large size for such a minutely finished work, and in almost perfect preservation. The treatment of the subject is that usual at the time it was painted, the scene being laid amid the ruins of a palatial building, in the centre of which is seated the Virgin with the Child naked on her knee, one of the kings kneeling in front of her and the others with attendants standing on either side and behind. In the distance is a landscape with the towers of Bethlehem, and a hill round which the remainder of the retinue is winding. Angels hover above, and the shepherds and other spectators gaze from windows

and other openings in the ruins. The richness and transparency of the colour, and the exquisite elaboration of the costumes and accessories, unite with other qualities to make this one of the most remarkable paintings of the early Flemish School. From Castle Howard came also a splendid portrait of Queen Mary by Sir Antonio More. From the now dispersed Blenheim collection were three fine examples of Rubens, the portrait of Anne of Austria, a Venus and Adonis, and the "Departure of Lot and his Family from Sodom." Of the Italian Schools there was nothing of much importance, and though the Dutch School was, as usual, largely represented, the examples were not up to the usual average. The Queen, however, sent the celebrated "Le Corset Bleu," by Metza, a Cuyp, and a Paul Potter, and there were some good specimens of Jan Steen, Franz Hals, Jacob and Solomon van Ruysdael, and Aart van der Neer. Amongst less known painters worthily represented were Jan Sibrechts, Jan Ochterselt, and William van Aelst. The National Gallery of Ireland sent portraits by two rare German artists, Hans Asper and Wolfgang Hauber. As usual, notwithstanding the great number of pictures by Reynolds and Gainsborough exhibited at the Grosvenor Gallery, this year and last, their pictures were more numerous than those of any other artist. By the former there were four-and-twenty, by the latter eleven. Amongst the Reynolds' may be cited portraits of Angelica Kauffmann, Mrs. Billington, Mrs. Fazakerley, Samuel Foote, Mrs. Musters (as Hebe), the famous Penelope Boothby, and a splendid sketch of Bennet Langton. Of the Gainsboroughs, the finest were, perhaps, Sir N. M. de Rothschild's group of "Squire Hilliard and his Wife," and the "Beggar Boys," lent by the trustees of the Duke of Newcastle. Of the four Turner's two belonged to Mr. Holbrook Gaskell, viz., the "Devil's Bridge," painted in 1815, and a wonderful "Burning of the Houses of Parliament" (October 16, 1834), painted in the following year. The latter is taken from the Surrey side of the Thames, close to Westminster Bridge, and must not be confounded with the equally wonderful and very different version of the same scene taken from lower down the Thames, which was exhibited here a year or two ago. Mr. Bolckow sent in a fine and interesting picture of "Old London Bridge," and Miss Maria Miller what was, perhaps, the most beautiful of all the Turners, a view of "Saltash, Devon" (painted 1812–14), suffused with moist golden air. Interesting to compare with this was an excellent Boning-

ton, "Fish Market, Boulogne," lent by Mr. C. Mansel-Lewis. Hogarth's forcible powers of characterisation were shown in his unsophisticated portrait of James Quin, and here, also, were his well-known "Southwark Fair," and "Night" and "Morning," together with an interesting conversation piece. There were also examples of Barker (of Bath), Callcott, Collins, Constable, Henry Dawson, Etty, Hoppner, A. Kauffmann, Landseer, Lawrence, Morland, Nasmyth, Romney, Samuel Scott, Stothard, James Ward, West, Wilkie, Wilson, and Zoffany. The collections most largely drawn upon for this exhibition were those of the Marquis of Lothian, Mr. Charles Butler, Mr. William Graham, Captain W. A. Hankey, Mr. A. P. Heywood-Lonsdale, and Mr. David Sellar.

The exhibition at the Grosvenor Gallery naturally tempted comparisons between Gainsborough and Reynolds. They amounted to little more than that Gainsborough was Gainsborough and Reynolds Reynolds. The latter warmer, more robust, more fertile in design, more comprehensive in his intellectual grasp, the former more original and tender in colour, more gentle in sentiment, more natural, perhaps; seeking rather to reveal the intelligence, the virtue, and the good-nature of his sitters than their more vigorous qualities. The Duke of Westminster's famous "Blue Boy" showed the artist's natural sense of elegance and distinction, and the triumph of his system of colour. Of the portraits of ladies, some of the best were those of Mrs. Frances Susanna Cope, afterwards Lady de Dunstanville, Lady Sheffield, Mrs. Fitzherbert, Georgina (the famous), Countess of Devonshire, and Lady Margaret Lindsay; amongst those of men may be noted Colonel St. Leger, lent by the Queen, Lord Mulgrave, Garrick, and "Parson Bate." Of the groups, none were more charming than that of the "Painter's Daughters," and the "Countess of Sussex and her Daughter." Gainsborough's claim to the title of the Father of the English School was maintained by some admirable examples of pictures of land and sea. Fine coast and river scenes were lent by Sir R. P. Beauchamp, Mrs. Clarke Kennedy, Lord Tweedmouth, the Duke of Westminster, and others. Amongst them was a large and silvery "View at the Mouth of the Thames," the "Harvest Wagon," and the "Cottage Door." At the same time was exhibited a large collection of the drawings of the late Richard Doyle, once a celebrated designer for "Punch," the illustrator of Thackeray and Leigh Hunt, the artist of fairyland. Although the collection

was miscellaneous in quality, it fairly represented his tender fancy, his fertile invention, his boyish vein of frolic and fun, his feeling for the eërie and the weird, and those other qualities which made up a personality dear to his generation, and entitle him to a distinct position amongst English artists.

The second Annual Exhibition of the Institute of Painters in Oil Colours made an attractive sight for the winter months. The number of pictures was 875, and among them were few that did not reach a fair standard of technical excellence. The President (now Sir J. D. Linton) sent a fine study of "A Knight in Armour;" Mr. G. Clausen, a singularly powerful head of "A Woman of the Fields;" Mr. Fulleylove, a charming view of "Versailles under the Grand Monarque;" and Mr. F. Barnard, a picture called "Duckling and Green Peas is *orf*, Sir," a scene in a public dining room in which the disappointment of an old gentleman at the announcement of the waiter is depicted with great humour. Mr. Baxter Langley made what we believe was his first appearance as a painter in oil. Other good pictures were sent by Mr. A. Stocks, Mr. J. Reid, Mr. F. A. Bridgman, Mr. Frank Walton, Mr. W. Small, Mr. H. Moore, Mr. A. Hacker, Mr. E. Bale, Mr. Hugh Carter, and others too numerous to mention, many of whom belonged to the Royal Institute of Painters in Water Colours, which may almost be said to be the parent body. Of the contingent from the Royal Academy the only exhibitors were Mr. T. S. Cooper, Mr. Pettie, Mr. F. Goodall, Mr. Herkomer, Mr. Macbeth, Mr. McWhirter, Mr. Storey, Mr. Phil Morris, and Mr. Birch (sculptor).

The Royal Society of Painters in Water Colours, unlike the Institute, keep up their Winter Exhibition. The quality of their Exhibitions is, to a certain extent, assured by the names of the members and Associates, but this one contained little of sufficient importance to require notice here. A magnificent study for a picture of "Kieff Yaoos" by Mr. Carl Haag, some fine studies of heads by Mr. Poynter, and "Abel," one of Mr. F. J. Shield's fine designs for the chapel of Eaton Hall, were conspicuous among the figure subjects. Amongst the various well-known landscape artists, perhaps, the merits of Mr. Brierley and Mr. George Boyce were best displayed. Some delicate little drawings by Miss Mary Forster attested a charming talent, which has since been nipped, alas! by death. Mr. Holman Hunt sent a wonderfully vivid little view of the Archipelago, unusually cool and sweet in colour.

The Winter Exhibition of the Society of British Artists was principally remarkable for the appearance of Mr. Whistler with a very clever portrait of Mrs. Louis Huth, and an audacious "Little Red Note, Dordrecht." Mr. Wallis's French Gallery was as well selected as usual, the most important pictures being some large and luminous views "In the Campagna," by Carl Heffner, and some scenes of Egyptian life by that consummate artist Professor L. C. Müller. "Trictrac Players — Cairene Café" was the name of his most important work; but a study of "A Coptic Maid" was equally fine in execution and character. Messrs. Tooth and Messrs. McLean had their usual attractive gatherings of pictures by native and foreign artists; and Bond Street, which has become a perfect picture-warren, had more "Exhibitions" than can be chronicled. The most important, perhaps, was that of the collected works of Mr. (now Sir J. D.) Linton at the Fine Art Society, where also during the year have been shown clever Venetian drawings by A. N. Roussof; water colours by Mr. Ernest George and Mr. A. Parsons; a selection of French prints of the 18th century; and Mr. Holman Hunt's "Triumph of the Innocents," to which we shall again refer.

At Messrs. Dowdeswell's have been shown drawings by Mr. Ernest Parton, Mr. Charles Robertson, Mr. Sutton Palmer, Mr. Ayerst Ingram, Mr. Robert Allan, and etchings, pastels, water colours, and oil paintings by M. Rajon. Mr. Mendoza had a pleasant "Black and White" Exhibition, composed of drawings by English and foreign artists.

The Galleries at Burlington House were this year enlarged by the addition of three new rooms, which were devoted to water-colour drawings, engravings (with other examples of "black and white"), and architectural drawings, respectively. The space vacated was entirely filled up with paintings in oil. The additional space was considerable, as will be seen by a comparison of the numbers in the catalogue. Last year there were 1,856 works exhibited; this year 2,134, or 278 more. In sculpture there was a decrease of 14, so that the increase in pictures (including drawings and engravings) was 292, and this was divided as follows:—Oil pictures, 94; water colours, 43; architectural drawings, 74; black and white, 25; and minatures, 56. The Academy deserves all credit for these and other alterations in its Exhibitions, which have been made under the enlightened Presidency of Sir Frederick Leighton. Worthy of recognition also is the spirit which prompted the election of Mr.

Burne Jones to an Associateship, especially as that artist did not solicit the honour, and has never, it is said, sent a picture to the Academy. The other elections of the year were also admirable. The only death in the ranks of the Academicians has been that of Richard Ansdell, the well-known animal painter, and the vacancy so caused has been worthily filled up by Mr. Alfred Waterhouse, the architect. The election as Associates of Mr. Henry Moore, the sea painter, and Mr. J. W. Waterhouse, the painter of "The Audience of the Emperor Honorius," "The Oracles" of last year, and the "St. Eulalia" of this, has been received with general approval.

The "St. Eulalia" was perhaps the most notable picture of the year. It is related by Prudentius that the body of the saint was shrouded "by a miraculous fall of snow when lying exposed in the Forum after her martyrdom," and the artist chose the point of time when the snow is beginning to fall but has not had time to cover the limbs of the prostrate figure, which is draped from the waist to the feet. She lies with her face to the sky, her head and outstretched arms nearest to the spectator, and the rest of her body strongly foreshortened. Two Roman soldiers guard apathetically the steps to the Forum, and beyond them a few women and children are lingering to gaze upon the sad sight; one woman, evidently a Christian and a mourner, has climbed the steps, and is kneeling with clasped hands and bowed head; a number of beautifully drawn and painted pigeons, more privileged, flutter and strut at their will around the body. The design is striking in its simplicity, and the conception is as free from commonplace as from false pathos. In workmanship the picture is masterly, the drawing is fine and emphatic throughout, and the tones of the flesh, dull and dark against the snow, hit the mean between the true and the repulsive. The severer paths of art possess so little attraction for the modern artist that it may be well not only to hail the success of this rising painter, but also to say a word for the much-ridiculed work of a veteran designer who has throughout his long career never been tempted to stray into more flowery places. Mr. Armitage's "After the Arena" represents the body of a Christian covered with scars being lowered into the catacombs, and suspended by a cord round the waist. A tall figure (presumably that of the father) receives it in his arms. a woman kisses its lips, a younger woman the drooping hand. The sad and solemn group is lighted by the rays falling through the aperture through which the

body is being let down. The conception of the group was original, and its feeling simple and solemn. It had, besides, qualities of design and draughtsmanship too rare at the present time, and deserved to be treated with respect, even by those to whose tastes it failed to appeal.

The masterpiece of the Exhibition amongst the paintings was, however, again contributed by Mr. Orchardson, whose "Salon of Madame Récamier" was another of those triumphs of choice and luminous colour, of refined and subtle draughtsmanship, of original grouping and delicate discrimination of character, which we have learnt to expect from the artist's hand. The beautiful hostess is dressed in white, and seated on a yellow sofa, her lightly-poised head relieved against a red curtain. She is, perhaps, too isolated, too obviously throned, for scarcely one of her large and brilliant company is near enough to her to make conversation easy; but from the quotation in the catalogue it is her power of collecting all sections of cultivated society, and her faculty of listening *avec séduction*, that the artist wished specially to present. On her left are Fouché, Delille, and Cuvier, on her right a much larger group split into knots of talkers. Amongst them are Madame de Staël, Talma, Canova, and Metternich, and an important trio composed of Lucien Bonaparte, Talleyrand, and Brillat-Savarin. All are alive and characteristic, and all the details of the elegant and brilliant *salon* are painted with wonderful freedom and mastery. Another picture by this artist, called "Her First Dance," representing a young and shy maiden standing up to step her first minuet with a confident young "buck" of the last century, was exhibited separately during the year, and was as fine in point of painter-like qualities as his Academy picture.

It must be confessed that there is something of a gulf between Mr. Orchardson's picture and those of most of his brother Academicians, many of whom again occupied large spaces on the line with works which it would be flattery to call second rate. Indeed, if possible, the scandalous manner in which certain of the privileged artists abuse their rights was more obvious this year than ever. Mr. Herbert, Mr. Cooper, and Mr. Storey were the worst offenders, but Mr. Wells and Mr. Goodall were bad enough, and Mr. Frith and Mr. Crowe and several others exhibited pictures which, if merit had been the test of admittance, would never have disfigured the walls or discredited the body to which the artists belong. Sir Frederick Leighton was

as accomplished and refined as ever, but exhibited no work of great importance. His fine draughtsmanship and decorative sense were shown in a frieze called "Music," but it was remarkable for prettiness rather than for any nobler quality. His dainty appreciation of female beauty and grace was seen in a charming single figure "serenely wandering in a trance of sober thought," and in another portrait-study called "Phœbe," while in his portrait of the Lady Sibyl Primrose he gave a "drawing-room view" of a pretty and aristocratic child. It was in a very different spirit that Mr. Millais, aiming at the unaffected *naiveté* of Sir Joshua Reynolds, painted her younger sister, the Lady Peggy Primrose. This was deservedly one of the most popular pictures of the Exhibition, but it was rivalled by the same artist's "Orphans," representing another (nameless) little girl with a rabbit. Mr. Millais's large picture "The Ruling Passion," of a very sick ornithologist, surrounded by his family and birdskins stuffed and unstuffed, enabled him to display the wonderful play of his brush and his great dexterity in the imitation of textures, but it was weak and scattered in interest, and cannot be considered as one of his successes. It was subsequently bought for the Art Gallery of Sydney. "Lady Peggy" and the grand portrait of Mr. Gladstone, at the Grosvenor Gallery, were the true triumphs of this great artist in 1885. We may here mention that he is no longer Mr., but Sir John Millais, Bart., and that a similar title was also offered to Mr. Watts, when Mr. Gladstone went out of office.

The latter admirable artist, who stated the insufficiency of his means as a reason for refusing the dignity, was represented at the Academy by one portrait only, that of Miss Laura Gurney; but, this, notwithstanding it showed some signs of a hand less strong than it once was, was one of the noblest works in the Exhibition, fine in colour and large in design, and bore the unmistakable impress of a true master.

Mr. Poynter's "Diadumenè" deserves all credit for the accuracy of its drawing and the dexterity of its painting, and but for the type of the figure might have justly been considered as a success; but the short-limbed and square-shouldered beauty of his artistic choice is wanting in that mobile grace and refined form which is generally associated with the perfection of female loveliness, and the colour, as usual with this artist, was neither rich nor very pleasant. A more original work was sent by Mr. Yeames, who is one of those painters who never remain long in

one groove. His "Prisoners of War" represents two young "middies" under guard in a French port. They are seated on a bench; one has his arm in a sling; both have a "don't care" air, and evidently meet with much sympathy from the young and old Frenchwomen, who are kept within a reasonable distance by the French sergeant who has the boys in charge. It is a capital picture, though on a needlessly large scale for the subject. This want of sense as to due proportion between canvas and subject seems to be a prevalent failing of the period. It is conspicuous in Mr. Briton Riviere's "Sheepstealers," a work which nevertheless is sufficient to remove the fear entertained last year that his power was failing. It is a scene in which a sheepstealer and his dog are seen behind a wall; the man calls the sheep, while with well-studied action of the hand he holds the dog in check. The sheep advance over the side of the hill, their fleeces shimmering in the mysterious misty moonlight. In "Væ Victis" the same artist displayed unusual vigour in depicting a desperate duel between a wolf and an eagle. Mr. Pettie is another artist who did something to remove his name from the black list. His work, other than portrait, was small indeed and somewhat careless, but there was enough spirit and character in his "Charles Surface selling his Ancestors" and "Challenged," and enough of the colourist also, to remind one of his better days. Mr. Boughton's "Milton visited by Andrew Marvell" was a deservedly popular picture. The sad-coloured garb of the men and the prim charm of the Puritan women were well suited to the sober but chosen palette of the artist and the quietism of his style. The scene was well composed, and the greeting of Marvell was presented with that grave courtesy and deliberate tenderness which were felt to be fitting. Another picture which deserves special mention was the "Circe" of Mr. John Collier, who has seldom been so successful in painting the nude. His Circe, though too mundane, is a fine creature, well drawn and modelled, and her attitude is elegant if a little too French. Her most serious rivals are the tiger on which she sits and the ocelot which fawns at her feet. They are evidently studied from life, and Mr. Collier has never perhaps painted anything more splendidly or with more inspiration than these beasts. One of the freshest and best pictures of the year was Mr. A. C. Gow's "Absolution for the Lost at Sea," and in a large picture of "Venetians" Mr. Fildes again attracted attention to his brilliant abilities.

The rest of the better known artists may be said to have

repeated old successes rather than to have invented new ones. This may at least be said of Mr. Alma Tadema's "A Reading from Homer," which seems to have been painted as a companion to his celebrated "Sappho," an honour of which it is worthy. Similar praise may be given to Mr. G. D. Leslie's "The Language of Flowers," another of his welcome illustrations of the purity and sweetness of English maidenhood; to Mr. Marks' "A Good Story," and other bits of dry humour and sound painting; to the landscapes of Mr. Oakes, Mr. Vicat Cole, Mr. Leader, Mr. Davis, Mr. J. Brett, Mr. Colin Hunter, Mr. McWhirter, and Mr. A. W. Hunt; nor is there much more to say even of such artists as Mr. Hook and Mr. P. Graham, except that they were as good as usual. Mr. T. Faed, with his charming figure of a Scotch peasant mother reading by the fire, "When the Children are Asleep," and Mr. J. Clark with his "Home Again," sustained their reputations and that of the school of pure British sentimental *genre*. Sir John Gilbert with his "Standard Bearer" was as brave as ever, and Mr. Albert Moore's "White Hydrangea" was nearly, if not quite, up to his usual mark. If we add that Mr. Herkomer showed his usual versatility in a large romantic landscape, in a scene of dreary pathos, and in portrait, we may close this list.

Almost the same must be said of many younger men, of Mr. Woods and Mr. Seymour Lucas, of Mr. John Reid and Mr. John White, all colourists of no mean order and artists of real gift; of Mr. Charles Wyllie and his impressive designs of hulks, dead and alive; of Miss Alice Havers, with her too pretty colouring and sentiment over sweet; of Mr. Frank Dicksee, whose "Chivalry" was open to much the same objection; and Mr. Marcus Stone, whose "Gambler's Wife" was in his most accomplished and least inspired vein. Sir J. D. Linton's success, for it was one, could be appreciated best by those other artists who have had to sacrifice their impulses to their duty in a similar way. His "Marriage of the Duke of Albany" was admirably "done," and that is all there is to say.

The artist who made the most distinct advance and broke the freshest ground was Mr. Stanhope A. Forbes, whose "Fish Sale on a Cornish Beach" showed the light glancing over wet sand covered with well-drawn groups and pearly fish. In the distance was the shoaling sea, crowded with the fishing fleet. The whole scene was vividly and freshly realised, and admirably kept in tone. To Mr. W. H. Bartlett may also be credited a genuine if a modest success. In "His Last Work"

the widow of a sculptor is seen laying a wreath of immortelles at the foot of a statuette in the studio. Some visitors are looking at it critically, and, behind, her young daughter stands timidly. Much praise may be given to the mere painting of the picture, but Mr. Bartlett's special talent is now beginning to be too well known to need remark. The most notable part of the achievement is the treatment of so difficult a situation simply and naturally.

In relation to portraits we must mention Mr. Herkomer's name again. His very spirited portrait of Miss Katharine Grant, with the exception of the drawing of the right arm, was a great success. The vigour and freshness of this artist were also visible in some portraits of the other sex, both here and at the Grosvenor. Mr. Ouless showed his insight into character, and his refined execution, in portraits of Mrs. Bruce, Dr. Kennedy, and the Rev. Montague Taylor. In certain qualities, especially as a colourist, Mr. Frank Holl cannot equal him, but in effective breadth of treatment and forcible presentation there were no portraits of the year which excelled the latter artist's Earl of Dufferin and Dr. Mitchell, of Philadelphia. Other portraits which demand notice were Mr. Orchardson's Mrs. Ralli, and Mr. John Sargent's dashing portrait of Lady Playfair, technically a splendid *tour de force*, and in design full of animation and distinction. Among portraits by less known men, those by Mr. J. Farquharson, Mr. M. Skipworth, and Mr. A. Wasse were above the average.

One of the most encouraging symptoms of the year was the fresh observation and fine feeling displayed amongst the younger painters of landscape and sea. The works of Messrs. Hope McLachlan, Percy Belgrave, Alfred East, Arthur Lemon, W. Heath Wilson, Picknell, J. W. Jelley, A. Normann, J. Henderson, and David Murray, all show personality and skill, and give ground for confidence that the new school are likely to well sustain the special reputation of England for this branch of art. We would add the name of Mr. A. Helcké but for our doubt as to his nationality.

Pictures which would demand attention in a more extended notice were contributed by Messrs. Solomon, J. Solomon, F. M. Skipworth, E. Scanes, A. Mackworth, W. E. F. Britten, A. J. Elsley, E. Sainsbury, E. B. Leighton, Blandford Fletcher, C. Burton Barber, S. E. Waller, W. F. Calderon, and by Mrs. Waller, Mrs. Stokes, Mrs. Anderson, Miss J. McGregor, Miss A. J. Pertz, and Mrs. Alma Tadema.

Miss Alma Tadema's name appeared, we think, for the first time, with a very pretty water colour; but of the Water Colour Room we can say little except that it was full of very beautiful work. The most remarkable of the drawings were an enormous and very fine picture of "Tintagel," by Mr. Arthur Croft, a small miracle of workmanship by Mr. E. J. Gregory (his only contribution this year), Mr. Poynter's "Dream of the Arabian Nights," and "An Offering: Scarlet Poppies," by W. J. Muckley.

Amongst the sculpture there was little of any original merit except an exquisite "In Memoriam" tablet by Mr. E. Onslow Ford, Mr. Thornycroft's equestrian statuette of Edward I, and Mr. Harry Bates's three small reliefs from the Æneid; but Mr. Boehm's large and spirited group of "St. George and the Dragon," Mr. Onslow Ford's life-size seated statue of Mr. Irving, the actor, and Mr. Armstead's effigy of Dean Close, deserve notice. The list of sculptors contains a good many ladies' names, and "A Portrait Study," by Miss Jessie Lipscombe, was a work of promise.

The Summer Exhibition of the Grosvenor Gallery, despite the absence of Mr. Burne Jones, Mr. Whistler, and Mr. Legros, was full of the interest and variety which mark the works of different minds. The neo-mediæval school, which is languishing to its close, was represented by such true believers as Mr. Spencer Stanhope, Mr. Strudwick, and Miss Pickering; the only heart-and-soul Pre-Raphaelite, Mr. Holman Hunt, sent a head called "The Bride of Bethlehem," a marvel of realisation, but not very pleasant. Orthodox and accepted art appeared in the pictures of some members of the Academy and others, and the new school of unsentimental presentation of the truth, combined with great dexterity of the brush, was not without its delegates, such as Mr. John Reid and Mr. W. H. Bartlett. The Exhibition had also its *débutant*, Mr. C. W. Mitchell, who, with a bold and original picture of "Hypatia" seeking sanctuary at a Christian altar against her Christian enemies, showed imagination and skill, and achieved sufficient success to arouse interest in his future work.

In portraits the Grosvenor was strong. Sir J. Millais has seldom painted a finer one than that of Mr. Gladstone, his face worn with age and anxiety, but full of a spirit almost defiant. It might have been called "Gladstone at bay." Mr. Watts had also two fine portraits, Miss Rachael Gurney and Mrs. F. Myers, as well as an allegorical picture of "Love and Life," large and

simple in design, and elevated in sentiment. Mr. W. B. Richmond had many examples of his refined and captivating skill as a portrait painter. The charms of children, as in his portraits of the Misses Wormald, the dignity and sweetness of womanhood, as in those of Mrs. Waters and the Hon. Lady Loyd-Lindsay, and the subtle intellect of a scholar and a gentleman, as in that of Mr. Andrew Lang, are all within his range. In his free and easy portrait of Mr. C. Villiers Stanford Mr. Herkomer showed his readiness in seizing a familiar aspect, and Mr. Holl's portraits of Mr. W. L. Palmer and Lord Overstone were forcible and finely painted. Other fine portraits were Mr. Sidley's, of Mrs. T. Meadows Clutterbuck, and two by Mr. Alma Tameda, the pleasantest of which was of Mr. Frank Powell.

This fine painter was also seen at his best in two small works of old Roman *genre*, called "Who is it?" and "Expectations." Mr. Van Haanen sent an early and very forcible picture of the "Death of Juliet," or rather of Juliet after death, Mr. John Reid's "Mermaid" and "Seed Time, Cornwall" were painted with his usual strength and fine sense of colour, and Mr. W. H. Bartlett, in his "Practising for the Swimming Match" showed admirable skill in drawing the figure and a charming freshness of observation. His other picture, "The Sprats of the Season," was full of the same rare qualities. Mr. Henry Moore, with a magnificent sea heaving under moonlight, Mr. Clausen, with the "End of a Winter's Day" (an old man and boy returning at sunset from woodcutting), Signor Costa, Mr. Arthur Lemon, Mr. Talmage White, Mr. Eugene Benson, Mr. H. Schwabe, Mrs. Alma Tadema, Mr. Menpes, Mr. J. M. Rooke, Mr. Boughton, Mr. A. Parsons, Mr. Leslie Thomson, Mr. J. W. North, Mr. John Collier, Mr. W. M. Loudan, and Mr. E. W. Penton contributed to the pleasure of the Exhibition. There was little sculpture, but some was of fine quality, notably Mr. Roscoe Mullins's group of boys fighting with walnut shells, called "Conquerors," a bust of a boy by Mr. Onslow Ford, and a bronze head by Mr. Hamo Thornycroft, full of style and force.

Mr. Whistler, though absent from the Grosvenor, was in strength at the Society of British Artists with a full-length portrait of Señor Pablo Sarasate, alert and alive. He had also some of his wonderful little bits of landscape, perfect in colour and marvellous in suggestion. He leavened the lump of the Society not only with his own work, but in that of Mr. Harper Pennington,

Mr. Sidney Starr, and some others. Some strong work of Belgian impulse was shown by Mr. Dannat (an American), and some good cattle pieces came from Van Damme Sylva. There were some good pictures by more constant exhibitors here, but as these artists were better represented elsewhere, there is no need to mention them in connection with this Exhibition.

Notwithstanding the infusion of young and new blood into the Royal Society of Water Colours, their Summer Exhibition was by no means above the average. Pleasant and accomplished would be adequate praise for nearly every one of the drawings; even the artists of poetical temperament like Mr. Alfred Hunt and Mr. Albert Goodwin seemed rather inclined to rest on their laurels. Mr. Alma Tadema, Mr. Ruskin, Mr. J. D. Watson, and Mr. Shields were absent. Of the younger Associates, Mr. Wainwright sent but one contribution, which did not do much to justify expectation, Mr. C. Gregory had nothing to compare in success with his drawings of last year, and Mr. Glindon's "Love Philtre" was clever, though uninspired by any freshness of thought; but the drawings by the late Mrs. Mary Forster Lofthouse, especially one of "Pembroke Castle," showed that much might have been expected from her refined feeling and tender sense of colour. Mr. Albert Moore sent versions of subjects present at the Grosvenor and the Royal Academy, of which "The Yellow Room," a nude figure against a gold background, was his best work of the year. The list of Members and Associates will tell almost as much as can be said about the drawings exhibited by the rest, for their styles and powers are well known. The large open Exhibition of the Royal Institute of Painters in Water Colours contained 1,069 drawings, or very nearly as many as last year. Of its high merit as a whole a word has already been said. Although its most important contributions were sent by the members of the Institute, there was a great deal of good, and some notable, work by outsiders. Mr. Thomas Collier sent a magnificent drawing of open heath, "Near Burley," and Mr. Wimperis, Mr. Orrock, and others, helped him to sustain the traditions of David Cox and De Wint, while Mr. Hine in several drawings, and one superb one of "Cuckmere Haven," painted downs and chalk, and sands and sea as none else has painted them but Copley Fielding. The President sent single figures of "Waverley" and "Rose Bradwardine," in his best style; and Mr. C. Green a singularly fine drawing of "Nelly and her Grandfather at the Races." Amongst other members who

specially distinguished themselves were Mr. Napier Henry, Mr. E. Bale, Mr. C. Earle, Mr. John White, Mr. Elgood, Mr. Abbey, Mr. A. Severn, Mr. W. Small, Mr. F. Dadd, Mr. E. J. Gregory, Mr. Wetherbee, Mr. G. Clausen, Mr. Seymour Lucas, Miss Mary Gow, Mr. J. W. Waterhouse, Mr. T. Walter Wilson, Mr. Walter Langley, and Mr. Fulleylove, and amongst outsiders Mr. Leonard Hill, Mr. Arthur Melville, Mr. Anderson Hague, Miss Ellen Hill, Mrs. Whymper, Mr. Vernon Howard, Miss E. Armstrong, Mr. Cris Poole, Mr. John Scott, Mr. J. C. Dollman, Miss A. G. King, Mr. C. S. Mottram, Mr. E. Davies, Mr. F. M. Skipworth, Miss K. M. Whitley, Mr. T. Blake Wirgman, Mr. Yeend King, and Mr. Weatherhead. The Institute sustained severe losses by the deaths of the President, Mr. Louis Haghe, and of Mr. John Syer, one of the oldest and best of its landscape painters.

To conclude with a few words more about the minor Exhibitions. The most important of the pictures separately exhibited was Mr. Holman Hunt's "The Triumph of the Innocents," a work which the artist spent years in maturing, and the completion of which was delayed by many accidents. There are two versions of it. The first picture was executed in Jerusalem, but was spoilt by the unsatisfactory surface of the linen on which it was painted. It has been relined, and is said to be safe, but it was the second version which was exhibited. According to a tradition, the Holy Family in their flight into Egypt was attended by the spirits of the slain innocents, and Mr. Hunt conceived the latter as a band of lovely children decorated with flowers, and strongly illuminated by a supernatural light, which contrasts sharply with the starlight in which the landscape and Holy Family are comparatively veiled. The children are splendidly grouped and finely designed; the picture is full of fine feeling and abundance of fancy. Its execution is also a marvel of patience and dexterity. Its total pictorial effect is, however, disappointing, and the work suffered from the effort of the artist to tell more than his means of expression allow. With all its faults it must, however, be considered as one of the most important works of the present generation of English artists, one of the most thorough, as it probably is one of the last examples of the pure spirit of the English Pre-Raphaelites. Of a very different order was Mr. Munkacsy's "Return from Calvary," an enormous work conceived in the same spirit and on the same scale as the "Christ before Pilate" of last year. It

was an impressive but vulgar work, striking, if too theatrical, in design, and full of strong character and telling incident. An exhibition at Messrs. Boussod and Valadon's of some pictures by Bouguereau gave the public an opportunity of studying the refined taste and accomplished draughtsmanship of this famous French artist. A collection of the works of the Belgian, Jan Van Beers, at the Salon Parisien, in Bond Street, proved beyond doubt that artist's great technical skill and perverted taste. At the Dudley Gallery the best exhibition was that of the Society of Painter Etchers, to which the President, Mr. Seymour Haden, sent a mezzotint version of his celebrated etching of the "Agamemnon." The imaginative design of Mr. W. Strang, and the picturesque skill of Mr. Duveneck, Mr. Joseph Pennell, and Mr. Colin Hunter were well illustrated, and Mr. H. J. Augley, Mr. David Law, Mr. Lucien Gautier, Mr. Charles Robertson, Mr. F. Chaigneau, Mr. C. O. Murray, Mr. A. H. Haig, and others showed excellent work. Mr. P. G. Hamerton sent some plates illustrating new processes in etching. In Marlborough Street the Society of Lady Artists held an exhibition, which showed advance both in number of pictures and in quality.

The Summer Exhibitions of the French Gallery, Mr. McLean's, and Mr. Tooth's were as good as usual. At the first Professor Müller, Hermann Phillips, A. Gérome, and Joanowitz were represented; at the second, Jacquet and Vinea; at the third, Van Haanen and De Blaas. At McLean's were also three pictures by Sir John Millais, "A Message from the Sea," "The Mistletoe Gatherer," and "Little Miss Muffit," all fine, the last (since engraved) delightful. Two other pictures by the same artist, "The Stowaway" and "The Waif," were exhibited with Mr. Orchardson's "Her First Dance," at Mr. Green's Gallery, in King Street, St. James's. At the Hanover Gallery there have been two exhibitions containing good examples of Corot, Millet, Rousseau, and others of the French School. The fine collection of Morland's works at Messrs. Vokins; of Frederick Walker's at Messrs. Donnithorn's; and some drawings by Bonington at Messrs. Hogarth's; paintings on china at Messrs. Howell and James'; some new terra cotta reliefs by Mr. Tinworth at Messrs. Doulton's; and several portraits of the late General Gordon must close the account.

COSMO MONKHOUSE.

SCIENCE OF THE YEAR 1884-1885.

Astronomy.

The Sun.—Professor H. McLeod has invented a new form of sunshine recorder, the principle of which is, that the record of sunshine is produced by the light instead of the heat of the sun, as in the more usual forms. The apparatus consists of a camera placed with its axis parallel to the Polar axis of the earth, the lens of the camera pointing northwards. Opposite the lens is a silvered sphere, from which the sun's rays pass through the lens to the sensitized paper in the camera. This paper is rendered sensitive by ferro-prussiate of potash. The position of the lens and sphere are so arranged that the image of the sun is reflected in a line, which rotates slowly about another line, lying through the centre of the lens, the two lines coinciding in a point on the silvered sphere. The image of the sun is carried round in this circular arc by the earth's motion. The diameter of the circle thus traced in June is, in Professor McLeod's present form of instrument, about 120 millimetres diameter. The time scale is easily made by dividing this circle into arcs of 15° by radial lines, each arc representing one hour. As a test of its delicacy, covering the lens for one minute produces a light line in the dark band, produced by continuous sunshine.

The total quantity of heat and light radiated by the sun has been made the subject of a paper communicated to the "American Journal of Science" by Professor Langley. The author comes to the conclusion that the amount of light and heat absorbed by the atmosphere has been very much underrated, and, consequently, that the total solar radiation has also been put at too low an estimate. Previous investigators have taken the amount of atmospheric absorption at the sea level as being about 20 per cent. of the total radiation, whereas Professor Langley, from theoretical considerations and from experiments conducted at great heights, as well as at the sea level, concludes that the amount of absorption is at least twice as much. As the solar energy consists of an infinite number of radiations, the effect of different atmospheric conditions will largely influence the total radiation observed at the earth's surface. To estimate the heat radiated from the sun, Professor Langley uses an instrument which he calls a bolometer. This consists of a metallic wire or tape through which an electric current is passing. Any heating

effects on this wire or tape causes an alteration in its power of conducting electricity, and this alteration in resistance is at once shown by a delicate galvanometer. By means of this instrument and by working at heights of 15,000 feet, Professor Langley has extended the limits of the invisible spectrum to wave length 28,000 of Ångstrom's scale. The wire or tape of this bolometer is made of platinum, and is about $\frac{1}{25000}$ of an inch thick and $\frac{1}{120}$ of an inch wide. Preparation of so thin a wire presents certain difficulties, but these Professor Langley has succeeded in overcoming.

The Planets.—The seventh satellite of Saturn, Hyperion, has been shown by the observations of Professor Hall and others to have a retrograde motion as regards its revolution round its planet. [It should be remembered that the direction in which all the planets revolve round the sun, and in which the satellites revolve round their planets, is alike for all the planets and satellites with the exception of Hyperion, and doubtfully of one other satellite.] The nearest satellite to Hyperion is Titan, the largest of the Saturnian moons. The direct action of this neighbour would be to give an additional direct motion to Hyperion, *i.e.*, in the direction in which the other satellites revolve; but Professor Newcomb finds that owing to the fact that the orbits of these two satellites nearly approach commensurability, Titan exercises a drag on Hyperion's orbit sufficient not only to overcome the impulse to a direct motion, but to produce a retrograde movement. The diameter of Uranus has been measured by several observers. Professor Seeliger, of Münich, from a series of careful measurements, made in four different directions, concludes that the diameter measures 3·963″, and that no sensible ellipticity in the planet's disc can be observed. Professor Millosvich, of Rome, agrees with these observations, and places the diameter at a similar quantity, but at Milan Professor Schiaparelli has taken certain measurements which appear to show an ellipticity of the disc, though the observations have not been sufficiently numerous to settle the question. The existence of a planet still further removed from the sun than Neptune has been assumed by M. Duponchel, in the "Comptes Rendus," as an explanation of the phenomenon of the secular variation of the compass. He considers that such a planet would have a revolution period of 467 years, and be at present somewhere in the constellation Capricornus, in latitude 314°. The existence of an ultra-Neptunian planet has been also assumed to account for

certain elements in the motion of Neptune. It is interesting to note that, on M. Faye's hypothesis of the evolution of the solar system, such a planet would have a retrograde motion similar to that already mentioned as characterising the satellite Hyperion. Of the minor planets eight more have been discovered since the date of writing last year. They are as follows:—No. 243, named Ida, was discovered by Professor Palisa, of Vienna, on September 29th, 1884; No. 244, Sita, discovered on October 14th, 1884; No. 245, Vera, by Mr. Pogson, at Madras, on February 6th of the present year; it is described as being of the 12–13 magnitude. No. 246, Asporina, by M. Borrelly, at Marseilles, on March 6th; No. 247, Eukrate, by Dr. R. Luther, at Düsseldorf, on March 14th; these two are both of the 11th magnitude. No. 248 was discovered by Dr. Palisa on June 5th; No. 249 by Dr. Peters, at Hamilton, N.Y., on August 12th; and No. 250 by Professor Palisa, at Vienna, on September 3rd.

Stellar Astronomy.—The Argentine Republic has published Dr. Gould's great work on the stars of the Southern Hemisphere, known as the "Cordoba Zone Catalogue," on which that astronomer has been working for upwards of thirteen years. It contains a very complete and accurate survey of the southern heavens down to stars of the $9\frac{1}{2}$ magnitude, including some of the more important stars of the 10th magnitude. Some idea of the amount of work expended may be gathered from the number of stars of which the positions are given. There are 73,160 different stars catalogued within the limits of 80° and 23° South declination, the stars being arranged in the order of their Right Ascension. Another star catalogue which has been lately published is that by Professor Grant, known as the "Glasgow Star Catalogue." This contains the results of that astronomer's observations on some 6000 stars, selected from the first volume of "Bessel's Catalogue," and therefore within 15° of the equator. Professor Grant's catalogue supplies more accurate places for a large proportion of these stars, and will thereby enable the proper motion of many of them to be accurately determined. Professor Grant has himself investigated the proper motion of ninety-seven such stars, which are found in both Lalande's and Bessel's lists.

The "Glasgow Star Catalogue" is the first separate work issued from the Glasgow Observatory, and has been printed by the Government on the recommendation of the Royal Society. Dr. Ball has published his observations on stellar parallax made

at Dunsink. These observations are of interest, not only on account of the stars catalogued as having a measurable amount of parallax, but also on account of the number of stars for which Dr. Grant's method did not enable him to recognise any. He carefully observed 410 stars; of these, 368 showed no recognisable parallax, while the remaining 42 showed a parallax, which in all cases was of a very small value. Baron Dembrowski has published his great work on double stars. It contains micrometric observations made during the years 1862 to 1878. A list of thirty-two red stars not found in any Star Catalogue has been published by the Rev. T. E. Espin, President of the Liverpool Astronomical Society; and Mr. Barnard, of Nashville, has announced the discovery of a new red star, which he states is so intensely red that, when seen in a telescope with 5-inch object glass and a magnifying power of 30 diameters, it appears like a drop of blood. A list of variable stars, twenty-five in number, has been published by M. Borrelly. These stars were observed by him in searching for minor planets. The variability of stars has also been studied by Herr E. von Gothard. He has observed the spectrum of the star β Lyræ on thirty nights, and he gives as the result of his observations, that on nine occasions the line D_3 in the spectrum was more or less bright, and on one occasion (July 13) was "almost dazzling." On several other nights the presence of this line was only just suspected, and on nine nights no trace of it could be seen. The C line was also seen reversed on many occasions and frequently very brilliant, while on other nights it was faint or even a dark line. The F line also varied. The period of variability was the same for all the lines, and appeared to be about three days. Dr. Elkin, of Yale Observatory, has during the past two years been engaged in measuring the group of the Pleiades, taking as his basis the catalogue of Bessel, but adding thereto the places of many stars which Bessel does not mention. The position, angle, and distance of the stars in Bessel's list are given, as measured with the Yale heliometer from the star Alcyone. The value of this work of Dr. Elkin cannot be fully estimated till the position of certain reference stars has been accurately determined at other observatories where this is now being done. It may be added that, in addition to this work, Dr. Elkin has determined the position of a number of craters in the moon, and also a series of measures of the diameter of Venus, of the outer ring of Saturn, and of its satellite Titan. The mean diameter of the moon will

be determined with accuracy from the measurements made during the total lunar eclipse of 1884. The results of the observations then made at thirty-six different stations have been forwarded to Herr Struve, at Pulkowa, by whom they will be reduced and combined.

Variation in the Nebula in Andromeda.—Dr. Hartwig has announced that he has discovered a stellar nucleus in the Great Nebula of Andromeda, which has previously been looked upon as a gaseous mass irresolvable into stars. This nebula does not seem to have been known, or at any rate made an object of study by the ancients, being first mentioned by the Arabian astronomers in the tenth century. During the seventeenth and eighteenth centuries an opinion gained ground that this nebula was subject to changes of brightness, but nothing has been recently discovered which could uphold this opinion. The spectroscope, however, has shown that it differs from other nebulæ in giving a continuous spectrum, *i.e.*, one containing all the colours of a rainbow instead of the ordinary spectrum of a true nebula, which consists of a few coloured bands separated by dark spaces. This nebula is easily seen by the naked eye on a clear moonless night as a faint misty object. Dr. Hartwig's discovery makes it an object of especial attention. Dr. Hartwig is studying the nebula at Dorpat, where he has the use of the 9½-inch object glass with which Herr Struve carried on his researches in the double stars. The announcement in England of Dr. Hartwig's discovery was made by Lord Lindsay's observer at Dunecht. Drawings of this nebula, made by Professor Bond, at Harvard, in 1847, and by M. Trouvelot in 1877, show certain important differences which tend to uphold Dr. Hartwig's discovery. M. Folie, of the Royal Observatory of Brussels, reported that on the 2nd of September the nebula, when examined by the 15-inch equatorial, showed a stellar nucleus of the 6–7th magnitude, whereas in the previous month no nucleus was observable.

Comets.—The number of comets observed during the past twelve months is not large, and the more important ones were those observed in the last few months of 1884. The one known as Brorsen's Comet ought to have reappeared in September last, but its position would at that time be so unfavourable for observation in northern latitudes, and was also so near to the sun, that it appears to have entirely escaped rediscovery. The fourth comet of 1884 was discovered by Max Wolf, at Heidelberg, on September 17th, and independently by Dr. Copeland, at Dunecht.

When first noticed it was situated in the constellation Cygnus. It is described as possessing a rather bright star-like nucleus 3″ in diameter, this nucleus being surrounded with a faint diffused coma. According to Dr. Krüger's calculations it belongs to the class of elliptic short-period comets; its period of revolution being given by him as 2,460 days, or approximately $6\frac{3}{4}$ years. Encke's comet—another short-period comet—was reobserved by Dr. Tempel on December 13th, as an extremely faint object. Its return is somewhat sooner than was anticipated, and some slight correction to the previously published ephemeris is therefore necessary. It has also been observed by Mr. Barnard, at Nashville, on January 2nd, and by Professor Young, at Algiers.

During the past year a new observatory has been opened at Crete, Nebraska, U.S.A., to be known as the "Boswell" observatory, from the name of the founder. It is already supplied with an 8-inch equatorial, by Alvan Clark, and a transit instrument, as well as the usual meteorological apparatus. The Cape Observatory is to be supplied with a new 7-inch heliometer from the firm of Repsold, of Hamburg. This instrument has been ordered on the requisition of Dr. Gill; the cost, 2,700*l.*, will be defrayed by the Treasury.

Determination of Latitude and Longitude.—It has been decided to commence a series of observations to be made with the best vertical transit instruments, on selected stars, in order to discover if any change of latitude occurs in the course of years. Observatories are to co-operate in pairs for this work, these pairs being chosen so that the difference of latitude between the numbers of each pair may be as small as possible. By this arrangement the selected stars can be observed at nearly the same zenith distance. The latitudes which have been determined up to the present time leave the question of variation undecided. Thus at Pulkowa, in 1843, the latitude was 59° 46′ 18·73″, and in 1872 it had sunk to 59° 46′ 18·50″, with a probable maximum error of ±·14, while, on the other hand, the latitude at Greenwich appears from recent determinations to be the same now as it was in 1836. The pairs of observatories at present selected for these latitude determinations are Cape of Good Hope and Sydney, Santiago and Windsor (N.S. Wales), Rome and Chicago, Naples and New York, Lisbon and Washington. Commander Davis, of the U.S. Navy, has during the past year completed his determination of longitude on the west coast of America. This great chain of measurements connects Washington to various points in

South America, thence to Lisbon through St. Vincent and Madeira, and back to Washington viâ Greenwich. As an example of the accuracy which has been obtained in these longitude determinations, it may be mentioned that the values obtained for the longitude of Cordoba University, as calculated by each of the two routes given above, only differed from each other by 0·18 sec. of arc.

Geography.

Central Asia.—In last year's Almanac a brief notice was given of the explorations undertaken in Thibet by the native Indian explorer known as the Pandit A— K—. It is one of the rules of the Indian Government not to publish the names of these explorers, as, among other reasons, the safety of the explorer is considered to be thereby better assured. The journey made by this conscientious and intrepid traveller lasted upwards of four and a half years, and amounted to some 2,800 miles. This distance was chiefly over ground not previously known, and throughout the journey the magnetic bearings, which enabled him to determine the direction in which he was proceeding, were observed. The distance was measured by pacing, and, to enable him to do this, A— K— never rode if he could help it. In addition to these details he determined approximately the height of most of the mountain passes and river valleys, and has settled the question as to the watershed of the river systems flowing in an east and west direction on a mountain range near the pass of Tila-la, which is some 16,000 feet high. The Pandit found that even at heights varying from 12,000 to 15,000 feet there were large flourishing towns with, in favourable cases, fields of barley or woods around them. Such towns would rank as the highest inhabited localities in the world. The Pandit A— K— was not a specially and highly trained scientific explorer, but was selected as one capable of making simple field observations and of carrying out instructions. It speaks well for his ability, that after so long an absence he should have returned with all his instruments, books, and notes, in spite of the serious difficulties and dangers which he was forced to undergo. Twice he was robbed of his money, and twice forced to take service as a servant, in which capacity he continued for some time. Among other obstacles which he met with, one of the more serious was the prevalence of small-pox in the Li-tang district. For protection against this

disease the Chinese doctors make use of a snuff which contains the dried pustules of other small-pox patients. This produces when inhaled a milder and more curable form of the disease, and thus serves as a species of inoculation against the severer epidemic. At another place, Chomoráwa, at the head of the Kichu valley, he found the wandering shepherd tribes of that region engaged in burying the carcases of animals which had died through eating grass rendered poisonous by the presence of a wingless beetle. This beetle has a black head and yellow body, about 1½ inch long. Animals grazing on pastures infested with this insect are attacked by a fever of a contagious nature. The herdsmen and those who eat the flesh of such beasts are also liable to the disease. As a precaution, the Pandit states that they eat the scorched insects, and thereby fortify their systems against the attacks of the living ones. So far as can be at present ascertained, the new geographical information acquired by A—K— is not only of great accuracy, when his limited opportunities of observation are taken into account, but is of high value in settling the long debated question as to the origin of the river systems of Upper India.

Another explorer in Central Asia has been Dr. Neis, who has given an account of a journey of eighteen months' duration in the Indo-Chinese region. M. Neis had great difficulty in making his way into the interior owing to the disturbances caused by Chinese marauders, known as the Hos, who had overrun the part of the country through which he was desirous of travelling. Another kind of geographical work, which will it is to be hoped produce a more accurate knowledge of the Russo-Afghan territory, is that of the Afghan Boundary Commission which has commenced its labours.

Africa.—The Free State of the Congo appears to be progressing in its task of opening up the noblest river of equatorial Africa. An attempt to reach the Upper Congo from Lake Tanganyika was made by M. Giraud. Though not entirely successful, it has added to our knowledge of Lake Bangweolo, and has corrected the position of the River Luapula, which M. Giraud has discovered leaves the lake on its south-west corner, and not as previously given by Livingstone at the north-west. M. Giraud returned in safety to Inhambane on the coast, and afterwards to Marseilles. The Portuguese Central African Expedition, under Major Serpa Pinto, started from the coast last December, having been delayed up to that time owing

to the disturbed state of the country. Further south Captain Chaddock has ascended the River Limpopo up to the Transvaal territory. He describes this river as presenting a favourable route to the interior, being deep though narrow, and free from cataracts or other obstruction. Messrs. F. L. and W. D. Jones are engaged in an exploration into Somali land. Their route was from Berbera, which they left in the middle of last December, through the Ogaden country to Webbe Shebeyli, and thence through the Habr Gerhaji's country to Lebehalü.

The action of the Germans in Zanzibar and the neighbouring country is resulting in a more extended knowledge of the resources and importance of Central Africa. In the autumn of 1884 the Society for German Colonization in East Africa sent out a party under the command of Dr. Peters, to make treaties and bring under German influence much of the territory previously supposed to belong to or be under the protection of the Sultan of Zanzibar. Dr. Peters has concluded such treaties with ten quasi-independent sultans representing the districts of Usegehu, Nguru, Usagara, and Ukami. The area practically annexed by Germany under these treaties is about 2,500 square miles in extent, and of great commercial importance, as the main trade route from the Zanzibar coast and Lake Tanganyika passes through it. This inland country is described as fertile and healthy, while the native inhabitants are intelligent and docile. Whilst German influence is thus making itself felt in the east of Africa, French enterprise is again at work in the north, and the question of the inland African sea in the Sahara desert has been again raised. Commander Roudaire has made extensive observations at Tunis with regard to the practicability of his scheme, and his results are confirmed by M. Tissot. M. de Lesseps has also been convinced of the engineering possibility of the work, and his support will undoubtedly do much to encourage its promoters. M. Roudaire is now making preparations for a harbour and other necessary works at the Gulf of Gabes, in Tunis, where the future sea is to have its outlet to the Mediterranean.

America.—Even the United States still furnishes room for geographical research, as is shown by the discovery of the true source of the Mississippi. Captain Willard Glazier, of the United States Navy, states that the Mississippi rises in a lake somewhat south of Lake Itasca, in latitude 47° 13′ 23″, at an altitude of 1,578 feet above the sea. The source is thus put

at a spot about 1° south of Turtle Mountain, and the distance from the lake to the sea will be 3,184 miles. In the Dominion of Canada further attempts have been made to open the Hudson Bay route as a trade route for the north-western produce to reach Liverpool. Such a route if it could be successfully worked would shorten the distance between Liverpool and Winnipeg by nearly 1,000 miles, but the ice in the Hudson Bay Straits will always render navigation dangerous, and might prevent it altogether. The object of the Dominion Government in sending the expedition was to determine, if possible, at what time of year and in what directions the sea was most open, but the vessels sent were caught in the ice, and after remaining there for some time were compelled to return. An interesting point in the early history of American discovery has been investigated by Mr. R. S. Haliburton, who has with great probability determined that the early northmen in their voyages to America, before the year 1000, never travelled farther south than Nova Scotia, so that the honour of the first settlements in Cape Breton and Nova Scotia rests with the Portuguese and Spanish explorers of the fifteenth and sixteenth century.

In Greenland the Danish Government expedition for the year 1885 is under the command of Lieutenant Jensen, who has already taken part in four previous explorations of the same kind. The expedition started on March 24th in the "Thorwaldsen," under the command of Captain Amondsen. Lieutenant Jensen's object in this year's work was to survey the coast-lines between 65° 30′ and 64° N. latitude. On the completion of this work the Danish Government will have the credit of having carried out a complete survey of the Greenland coast from 72° 30′ to 61° 30″ N. latitude, as well as the greater part of the south coast. This makes the tenth consecutive annual expedition sent out. The one sent out in 1883, under the command of Lieutenant Holm, has returned to Denmark after an absence of 2½ years.

Australasia.—In continuation of the mountaineering work done by Mr. Green in the South Island of New Zealand, of which an account was given last year, Mr. Kerry Nichols has explored the so-called "King" country in the North Island. Mr. Nichols has ascended the peaks of Ruapehu, 9,100 feet high, and of Tongariro, 7,000 feet high. The latter mountain he reports as extremely interesting. The summit is formed of a large crater, almost a complete circle, and nearly a mile in

circumference. The sides of this crater slope gradually in the shape of a funnel, while at the base of the crater are the usual volcanic phenomena of hot springs, mud volcanoes, and sulphur deposits. Of this latter substance there are abundant crusts. Mr. Nichols did not notice any traces of recent eruptions, though Tongariro cannot be considered an extinct volcano.

Ascent of Roraima.—Mr. Everard im Thurm has ascended Mount Roraima on the borderland between British Guiana and Brazil. Roraima is interesting not from its height, being less than 9,000 feet above the sea-level, and about 5,000 feet above the plain on which it rests, but on accountof its pec uliar shape and supposed inaccessibility. Several previous attempts have been made to ascend the mountain, but have been unsuccessful. The shape of Roraima is that of a lofty flat-topped pillar, some 2,500 feet high, set on the top of a steeply-sloping cone of the same height. The base of this cone is covered with huge rocks and boulders, which render the passage even there almost impossible, not only from their own size but also on account of the dense mass of jungle and forest with which they are overgrown. In addition, the mountain is seldom free from mists, and is often clothed with cloud from base to summit for days together. However, on 8th December, 1884, Mr. im Thurm and a party of seven Indians succeeded in reaching the top, and spent three weeks there, descending again on Christmas Day. The summit is covered with masses of rocks weathered into a great variety of fantastic forms, and from the top streams flow down in various directions with falls of 2,000 feet, to form parts of the three great rivers of South America, the Amazon, the Orinoco, and the Essiquebo. Mr. im Thurm finds that Roraima is only the most striking of a group of similar mountains, and, not as was previously supposed, entirely unique in appearance.

On the Australian mainland Dr. R. von Lendenfeld has ascended the highest of the Australian Alps, to which he has given the name of Mount Clarke. He states that the upper limit of trees was reached at about 5,900 feet, and he gives the total height of the mountain as being 7,256 feet.

Biology.

The discovery alluded to last year of the egg-laying function of the group of Mammalia known as the Monotremata has been supplemented by further observation. Mr. Caldwell's discovery

was not, however, entirely unexpected, the great zoologist, Geoffroi S. Hilaire, having previously given an illustration of an egg of the ornithorhynchus in 1829. Unfortunately, though this showed that the phenomenon was one with which he was acquainted, the egg which he illustrated was not that of either the ornithorhynchus or the echidna, but merely that of an Australian bird. Dr. W. Haacke has found that the echidna after laying its egg hatches it in its breast pouch, where the young echidna remains until able to take care of itself. Professor Moseley made an interesting discovery of eye-organs in the shells of the Chitonidæ. Thus the shell of *Schizochiton incisus* contains a number of highly refracting minute rounded bodies symmetrically arranged round the shell. Other genera of the Chitonidæ have these rounded bodies, but in each they differ as to their number and arrangement. One genus has some 3,000 in the anterior shell alone. These eye-organs are seen, when examined under the microscope, to possess iris, lens, pigment ring, and nerves, while organs of touch appear to be also present.

The results of the *Challenger* expedition are still unexhausted. The Cirripedes and Polyzoa show many additions to the number previously known. Thus out of 78 species of Cirripedes obtained by the *Challenger*, no less than 59 were new. In 1854, when Darwin's monograph on the Cirripedes was published, only 147 were known, and up to the present year only 18 additional forms had been described. Of the genus Scalpellum, 40 new species have now been catalogued, a large addition to the 11 which were all that were previously known. Six new species have been added to the genus Verruca, and these are especially interesting on account of the depth at which they live. According to Darwin, the greatest depth at which Cirripedes lived was 90 fathoms, whereas these new Verrucidæ were dredged at depths varying from 500 to 1,900 fathoms. Of Balanus five new species are now recorded. The determination of these Cirripedes has been done by Dr. P. P. C. Höck, to whom the work was allotted by the late Sir Wyville Thomsor. The Polyzoa have been undertaken by Mr. G. Busk, and he reports that out of 286 species of which specimens were secured, 180 are new. The range of these Polyzoa is very great; thus one species, *Cribrilina monocera*, was obtained from a depth of 3,125 fathoms in the North Pacific, and from a depth of 35 fathoms in the Australian seas. So wide a range is, however, exceptional. As a rule, the shallow water species are widely

distributed, while the deep water species live in a more restricted area.

The persistence of life in rotifers and other infusoria has attracted attention during the past year. Professor Leidy states that he has obtained living rotifers and even water-worms from melted ice, and Dr. J. Hogg asserts that rotifers dried and heated to 200° F., and then frozen, were found alive when thawed in water. Mr. Hogg also finds that some poisons produced no effect on them, though free sewage killed them, owing probably to the sulphuretted hydrogen gas contained in it. On the other hand, Plate states that many rotifers perish in a short time if they come in contact with the air on the surface of the water in which they live, and that they certainly could not endure drying and heating. Among minor discoveries of the year may be mentioned that of a gigantic earth-worm in South Africa, to which the name *Lumbricus microchæta* has been given. It is of a greenish colour, and is stated by the "Cape Times" to be sometimes as much as six feet long! Mr. S. W. Williston has described the larva of a dipterous insect found on the shores of the alkaline lakes of Nevada. This larva is eaten by the Indians who get fat upon it. It is said to be oily and not unpleasant to the taste, resembling a "patent meat biscuit." Mr. Simms, of Oxford, has noticed that young fish are caught by the bladder-like leaves of the *Utricularia vulgaris*. The fish are generally caught by the head and deeply swallowed, owing probably to the action of two pairs of projections, which are directed obliquely forwards and downwards to the end of the bladder. The Utricularia apparently digests or obtains nutriment from the fish so imprisoned.

One of the points in the theory of evolution which has always attracted attention is the question of the fertility or the non-fertility of hybrids produced by crossing two different species. These are generally infertile, but Mr. J. A. Allen has collected a number of cases in which this infertility is not observed. Thus the cross between the bison and the cow is not sterile, though the parents in this case belong not only to different *species* but to different *genera*. In Siberia, interbreeding between the hoodie crow and the carrion crow has been noticed; their hybrid offspring mated and produced young. Semper states that the male capercalzie will mate with the black hen, and that in certain districts the hybrids are so numerous and prolific, that they are superseding the parent birds. Professor Meehan con-

siders that in plant hybrids fertility is the rule rather than the exception. These instances go far to show that at any rate the theory that crosses between different species are invariably sterile must be abandoned. In a widely different manner a connection has been shown between the vertebrata and lower forms of life in the development of *Balanoglossus Kowalewskii*. Mr. Bateson finds that in this mollusc there are strong vertebrate affinities. In young specimens a rod of hypoblast is developed, which is solid in front and constricted off from the mass in the dorsal middle line of the pharynx. This then develops a structure similar to that observed in the notochord of the Amphioxus, the most lowly developed of the great vertebrate family. Mr. J. R. Davis has noticed that limpets can find their way back to the scars they have left, even when they have travelled from the place as much as three feet. The limpet must, accordingly, possess some power of discriminating locality, or of recognising a path over which it has travelled. Dr. C. A. McMunn has discovered in the suprarenal capsules a colouring matter, to which he has given the name of hæmochromogen. In the cortex or outer layer of the suprarenal capsules is found another pigment, known as histochromogen, while the hæmochromogen is found in the medulla or inner body of the capsules. It is hence probable that hæmochromogen is an excretory product, and that one of the functions of the suprarenal capsule may be to convert the used up hæmoglobin of the blood into hæmochromogen. In "Addison's disease" the skin undergoes a peculiar bronzing, and this is connected with disease of the suprarenal capsules. When these capsules cease to act, the blood pigments may possibly produce this peculiar discoloration. Hæmochromogen has been detected in the suprarenal capsule of other vertebrates besides man. Dr. McMunn has also described two other pigments, one named *myohæmatin* found in the muscles of the heart, and *histohæmatin* which is a "respiratory" pigment, *i.e.*, one which will absorb oxygen. Another instance of the occurrence of chlorophyll in the animal kingdom, to the knowledge of which Dr. McMunn has so largely contributed, has been discovered in the Protozoon discovered by Mr. T. Bolton, the microscopist, in a pond near Birmingham, and named by Professor Ray Lankester *Archerina Bolton*, after its discoverer. In this organism the chlorophyll mass forms a centre for its life processes, and division of this chlorophyll nucleus always precedes, and is followed by, division of the

protoplasm, of which the whole individual is composed. Mr. L. C. Wooldridge has succeeded in isolating a ferment, which determines the production of fibrin in blood. He gives the following method for its preparation. The blood plasma of dogs which have been fed for some time previously on a diet consisting of peptones is freed from corpuscles, and then cooled down to the freezing point, when a flocculent precipitate is formed. This precipitate gives rise to the fibrin ferment. When examined microscopically, the precipitate is seen to consist of minute pale transparent bodies smaller than red blood corpuscles, and having a great tendency to run together into granular masses.

Mr. H. Deintz has published the results of his observations on the motion of insects over smooth surfaces. It is generally supposed that flies and other animals walk on ceilings or similar places by the help of sucking discs which are present in their feet, but Mr. Deintz finds that the holding on is more commonly done by an exudation of mucus from the foot; thus the leech can walk on a wire network where its sucking discs would hardly enable it to retain its hold, and the tree-frog can hold on even in an air-pump vacuum. In the flies the feet are covered with hairs which are tipped with drops of liquid. The house-fly only uses these when on a vertical or more highly inclined surface, at other times the foot-lobes hang loosely down. Other insects secrete the necessary mucus from the mouth, snails from the foot. Dr. Rombout considers that the adhesiveness is due to capillarity and not to the mucous nature of the liquid.

Mr. E. T. Druery and Professor Bower have made some observations in the mode of reproduction of certain ferns which present important differences in this respect to other members of their class. In *Athyrium filix femina* (variety *clarissima*) the sporangia do not follow their normal course of fern growth into prothallia bearing both the antheridia and archegonia from which the future ferns are developed, but assume, first of all, a vegetative character, and then develop prothallia more or less well defined. These prothallia then ultimately bear the antheridia and archegonia. From these adventitious prothallia the production of seedling ferns has been noticed to take place in a normal manner. Professor Bower not only confirms Mr. Druery's observations, but finds that in *Polystichum angulare* the apex of the pinnules grows out into an irregular prothallium, upon which the characteristic archegonia and antheridia are developed.

In this case the prothallium is not even locally associated with the sporangia, but appears as a direct outgrowth of the normal spore-bearing plant, while the oophore becomes a mere vegetative process of the sporophore—a suppression of the alternation of the two generations. Mr. Druery's discovery is a direct converse of the two "apogamy," discovered in 1874 by Farlow, in which the sporophore is a vegetative growth of the oophore. It would appear, therefore, as if all the possible varieties of fern reproduction have now been discovered.

Cholera Bacillus.—Dr. R. Koch repeats his statements as to the cholera bacillus. He states that it is never found in blood, liver, or spleen. He states that the varieties of "comma" formed in the mouth of healthy persons are totally distinct, as the true cholera bacillus has a remarkable development form, growing into long spirals; hence Dr. Koch now claims it as a spirillum, not as a true bacillus. Rabbits and guinea-pigs died in one and a half to three days after inoculation of $\frac{1}{100}$ drop of a pure culture of the "comma;" the best temperature for its growth is 30 to 40° C. Professor von Ermengen agrees with Koch, that this cholera form is specifically different from those described by Finkler and Prior, and by Lewis, while Buchner thinks that so different are the two organisms that confusion between them should be impossible. Nicati and Rietsch have stated that the "comma" bacillus in a pure cultivation has a faint ethereal odour, and this faint odour has been noticed in the early stages of the intestinal matter in cholera patients. Klein states that the "comma" grows well in alkaline or neutral solutions, and that it is not killed by weak acids, as stated by Koch. The bacilli show marked differences when grown in different media, but not more than do other putrefactive bacilli. Klein, moreover, states that he never finds these bacilli in the blood, and that there is direct evidence to show that water contaminated with cholera evacuations, and therefore containing these bacilli, did not produce cholera in a large number of persons who used such water for drinking purposes. In connection with the question of the cholera bacillus and its action, it is of interest to know that R. Emmerlich has obtained pneumonia "cocci," or germs from hospital wards, and, after cultivation, has inoculated rabbits and mice, producing in these animals death from pneumonia. Typhoid fever organisms have been experimented on by Tayon, who likewise succeeded in inoculating rabbits, cats, dogs, and guinea-pigs, and producing in them typhoid fever symptoms.

He was, however, unable to so attenuate the virus of the disease as to render it harmless; he merely found that the pig could be inoculated without effect, when other animals were fatally affected. Metzdorf has noticed a distinctive bacillus in the blood of animals which have died of cattle-plague, and also in the lymphatic glands and coats of the intestines of such animals, and he has made experiments with a view of cultivating and weakening the poisonous character of this organism.

Geology and Palæontology.

In the north-west of Scotland, in the neighbourhood of Durness, are certain crystalline schists which rest on strata of Lower Silurian age. These schists were assigned by Professor Murchison on the ground of their position to the Upper Silurian series, though they have yielded no fossils which would enable them to be so classed. As the geographical survey of Scotland progressed it fell to the lot of Messrs. Peach and Horne to map this Sutherlandshire district, and, after careful examination, they came to the conclusion that Murchison's classification was inaccurate, and that the views of Professors Nicol and Lapworth, who had previously expressed doubts as to their Upper Silurian age, were correct. The underlying rocks are undoubtedly Lower Silurian, as shown by the mollusca found in them, and the mapping of the Durness and Eriboll districts shows that the position of these crystalline schists is due to a series of prodigious terrestrial displacements on a scale larger than has elsewhere occurred in Britain. The strata have been so folded and contorted that the older rocks have actually been thrust over younger ones. Strata have been crushed, bent, and doubled over in such a manner that older strata have been forced in immense folds over newer ones, and these folds have extended across the country for a comparatively great distance. But further, Messrs. Peach and Horne believe that the alteration in their character by which their present crystalline appearance is produced has taken place since Lower Silurian times, and while those older Lower Silurian strata have in comparison remained almost unaffected. Such enormous forces have produced also highly metamorphic changes in the rocks themselves by which their present crystalline and non-fossiliferous character has been given.

Metamorphism on a similar gigantic scale, accompanied by the

upheaval and folding of older strata over newer ones has been also noticed and described by Professor Bonney in the Alps district, and by Professor H. Carvell Lewis in Pennsylvania.

A deep boring at Woolwich has revealed some additional facts as to the strata under the London basin. This boring was put down for the purpose of obtaining a supply of water, but, after piercing through the chalk without obtaining the desired amount, the bore tube brought up cores of rock containing fossils which were identified as belonging to the great Oolite, while the series of upper Oolite and Wealden beds were absent. As these beds attain a thickness of some 1,400 feet in Sussex, it is clear that these strata thin away from south to north, so that only a wedge-shaped mass lies between the newer strata above and the older secondary and palæozoic strata below. In another case the position of the beds underlying the London basin has been further elucidated by the deep-well boring at Richmond. In this boring the great Oolite strata was cut through. A rich band of fossiliferous clay of this age, only six inches, was discovered, in which a large number of echinoderms and brachiopods were embedded. These served to fix the age of the deposit. Under these great Oolite strata were detected rocks which, though devoid of fossils, were recognisable by their mineral character as belonging to the Triassic strata. This formation had not previously been detected under London with any degree of certainty. In another part of the kingdom the existence of Triassic beds, which was previously a matter of dispute, has been placed beyond doubt. At Spynie, near Banff, are certain red sandstone beds which contain remains of a reptile known as Telerpeton. These beds were referred by palæontologists to the Triassic era on account of the presence in them of this fossil, while on lithological considerations the geologists of the survey had classed them as of Old Red Sandstone age. Careful examination of these rocks has, however, shown that they rest unconformably on beds of Old Red strata, and that their Triassic character is established by this fact and by their peculiar mineral structure as well as by the fossils found in them. No less than four orders of Reptilian remains have now been found in these sandstones, whereas reptilian remains are unknown in the Old Red.

Chemistry.

It has long been well known that soft water would dissolve lead, and zinc lined cisterns and pipes have been recommended

as a substitute for that metal. Professor Heaton finds, howeve , that some spring waters dissolve zinc. In one case the water, after passing through half-a-mile of galvanised iron pipe, contained as much as 6·41 grains of carbonate of zinc in a gallon. Dr. Venables has also met with a case in which a water contained 4·29 grains of zinc carbonate per gallon after passing through only 200 yards of galvanised pipe. It behoves owners of galvanised iron pipes and cisterns to look to the quality of their water supply, as a water rich in carbonic acid will gradually attack the zinc.

To prevent the oxidation which copper slowly undergoes in sea-water, M. Carnot proposes to use, for ship sheathing, copper alloyed with a few thousandths of manganese. The copper corrodes owing to the small amount of suboxide generally present in the metal becoming oxidised by the action of seawater and air, and then forming soluble salts which are washed out by the water. The manganese being readily oxidisable would protect the copper and get rid of the suboxide, which, M. Carnot states, is the cause of the mischief. A new metal has been announced by Professor Welsky, to which he has given the name of idunium. He professes to have discovered it in some specimens of lead vanadiate which he was examining. Dr. C. A. von Welsbach has published some results of his work on the metal didymium and its compound. He claims that he has separated this metal into two bodies, to which he gives the names "praseodymium" and "neodymium," which are distinguished from one another by the different solubility of the nitrates of these bodies and sodium, and also by the different spectra which the compounds of each body give when examined by the spectroscope. As the spectrum of the element (?) didymium has been carefully mapped, it is interesting to discover that the joint spectra of the praseodymium and neodymium of Welsbach produce exactly the line of the spectrum of didymium, and didymium next perhaps to iron and hydrogen is one of the most characteristic elements in the sun.

The ideas of chemists on the chemical action and chemical combination are undergoing a rapid change, owing to recent discoveries. Last year the observations of Mr. H. B. Dixon and Professor Dunnington were recorded as to the non-explosive nature of a mixture of pure dry carbonic oxide and oxygen, and as to the want of action of dry sulphuretted hydrogen on silver. These observations have been carried further by Mr. Baker, who

finds, in contradiction to what has been the prevailing belief among chemists, that pure carbon and pure phosphorus are incombustible in pure oxygen, though both readily burn if a trace of water or other impurity be present. It would thus appear that the simple chemical union of two elements to form a compound is by no means common, even if ever really occurs, and the actual expression of chemical change thus becomes of a more complicated kind. Professor Armstrong has suggested that the true source of chemical action lies in the electrical condition and capabilities of the reacting bodies. It has been noticed that nascent hydrogen obtained from different sources has varying chemical activities, and on Professor Armstrong's theory this varying chemical activity would be due to the different amounts of electro-motive force with which the molecules of hydrogen from different sources were charged.

Manufacture of Oxygen.—MM. Brin, Frères, have carried out a method of manufacturing oxygen from the air, which appears likely to form an economical method for obtaining large supplies of this element. They heat dry oxide of barium, perfectly free from water, in a current of dry air at a temperature of 500° C. At this temperature the oxide of barium absorbs oxygen and passes into the condition of dioxide of barium. The temperature is then raised to 800° C., the air supply being cut off, when the absorbed oxygen is given off owing to the increased heat, and the dioxide returns to the condition of oxide, ready to again go through the same processes. MM. Brin have invented an ingenious arrangement by which the retort containing the oxide of barium regulates the air supply and the amount of heat it receives. This is done by the expansion of the retort acting on levers which close or open the air-supply port. The principle of this process is not new, but it has always been previously found that after a time the oxide of barium becomes more or less crystalline, and refuses further to absorb oxygen. MM. Brin state that in their process this difficulty is overcome by the mode of preparing the oxide, by avoiding the presence of water, and by a careful regulation of the heat. The advantages in scientific and industrial processes of a ready and cheap supply of pure oxygen would be very great. It is to be hoped that the continued working of the process will be a success.

Dr. Oscar Loew states that the difference between living and dead protoplasm can be detected by their different behaviour with an alkaline silver solution. According to Dr. Loew

living protoplasm chemically differs from dead protoplasm by the presence of certain aldehyd groups in the former, and these aldehyd groups act on the alkaline solution and precipitate the silver in the metallic state. Thus the vegetable organism Spirogyra while alive reduces this solution and increases thereby in specific gravity, owing to the precipitated metal, whereas a dead Spirogyra is without effect on the solution. This observation, therefore, confirms the conclusions of Pflüger that a chemical change occurs when living protoplasm becomes dead.

Physics.

New Forms of Telephone.—Professor George Forbes in giving evidence on a telephone patent case described a series of experiments he had made, which have a great theoretic interest as throwing additional light on the principles of telephone construction. He stated that his experiments were directed to enable him to decide how far a resonant box or plate was essential to the action of a microphone transmitter, and he found after many trials that even with a substance like putty, which is practically without elasticity, acting as the resonator, speech was distinctly audible. Professor Forbes concludes from this that the voice acts directly on the carbon pencils of the microphone, and not necessarily through the medium of a resonator. Professor Sylvanus P. Thompson has invented a new form of telephone, which differs in several important points from the present Gower-Bell patent. This new form he calls the Nest telephone. The transmitter in this form of telephone consists of a tube terminating at one end in a mouthpiece and in the other in a small ring—the so-called nest—of soft material such as wool or hair. In this nest are two pieces of hard carbon which act as a microphone, being connected to the wires of a battery. The vibration from speech causes the carbons to vary their resistance to the current, and so transmit a varying amount of electricity to the receiving station. The receiver consists of a firmly stretched membrane, in the centre of which a small piece of ferrotype plate is fixed ; this being a form of receiver disclaimed by Bell, though in Professor Thompson's hands it has yielded good results.

M. Cailletet has discovered an important connection between the resistance offered by a wire to the passage of an electric current, and the temperature at which such a wire is main-

tained. It has been long known that the passage of an electric current along a wire produces or tends to produce heat, and that a heated wire offers a greater resistance to the passage of a current than a cooled wire, but M. Cailletet finds that at extremely low temperatures, *e.g.*, — 220° C., such as produce the liquefaction of oxygen, wires of copper or of platinum appear to offer no resistance at all to the passage of a current of electricity, and consequently that no current could produce heat in a wire at that temperature. In connection with the subject of electric current it may be mentioned that an ingenious "ammeter," or instrument for measuring the strength of a current, has been invented by M. P. Meardi. This ammeter consists of a U-shaped tube, one leg of which is of greater diameter than the other. Round the thicker leg of the tube is wound the wire conducting the current, the legs of the tube are filled with mercury, and on the mercury in the thicker leg floats an iron bar. The passage of a current sucks this bar into the mercury in a greater or less degree according to the strength of the current, and thereby produces a rise or fall of the mercury in the thinner leg of the U-tube, which is read off by a graduated scale. As a minor point in the phenomena of electric conductivity, Mr. G. J. Symons has noticed that when trees are struck by lightning the oak, elm, pine, and chestnut are the most liable to suffer, the number of oaks struck being almost one-half of the total. This has been explained as due to a greater percentage of iron in these trees.

Mr. F. W. Martins, of Sheffield, has introduced a new alloy for electrical purposes, which from its appearance he calls platinoid. It consists of German silver alloyed with one or two per cent. of the metal tungsten. Professor Bottomley states that the new alloy has a resistance for electricity 1½ times as great as German silver, and that its conductivity is unaffected by change of temperature. It should, therefore, be useful for the manufacture of resistance coils.

The application of electricity to the production of motive power has made steady progress during the past year. Not only has the electric railway of M. Volk, at Brighton, continued in satisfactory work, but another, and in some respects a more interesting one, has been opened at Blackpool. The Blackpool Electric Tramway, of which Mr. Holroyd Smith is the engineer, has been laid down along an ordinary road, and will, therefore, be exposed to the usual vicissitudes of tram-

ways from the passage over it of other traffic. As an example of the ease with which cars driven by electricity can be governed, it may be mentioned than on one occasion a parcel van accidentally blocked the line just as the tramcar was coming along at its usual rate of speed, but the car was stopped in half its own length, thus preventing a collision.

MM. Fol and Sarasin have been making experiments in continuation of those of M. Forel as to the depth to which sunlight penetrates water. They find that in the Lake of Geneva a sensitized photographic plate received no impression at 300 metres, while at 170 metres the impression was as feeble as that produced on a clear moonless night. In sea water off Cape Ferrat no impression was produced at 420 metres, and only faint traces of impression at 380 metres.

An ingenious modification of the mechanical telephone has been patented by Messrs. Knudson and Ellsworth, and is now being supplied to the public. In the mechanical telephone the sound vibrations travel along the connecting wire, whereas in the Bell and other telephones the sound waves merely excite an electric current in the connecting wire, and this current reproduces sound waves in the receiving instrument. The mechanical telephone has, therefore, nothing to do with electricity. It consists of a wooden case, about 5 inches square, fixed to the wall. In front of it is a larger plate, 9 inches in diameter, with a 3 inch hole in the centre. In this hole is inserted a perforated disc made of nickel 2½ inches across, and to this disc is attached the connecting wire. A similar instrument serves as a receiver, and no additional apparatus is required. To call attention it suffices to tap the nickel disc, when the sound is heard in the receiving instrument. It is claimed for this form by the inventors that speech is distinctly audible at a distance of 2 miles, and for short distances it may be useful as an advance on the speaking tube. Another ingenious mechanical contrivance, which has been on view at the Inventions Exhibition, is Cameron's sliding coupling for shafts inclined to each other at an angle. This coupling consists of a number of rods bent to the angle required by the inclination of the shafts to each other. The face of each shaft is pierced with an equal number of concentric holes, and the legs of the rods are inserted into these holes. The revolution of one shaft is then transmitted by these rods to the other shaft. This form of coupling allows more play than the usual bevel-wheel coupling, but at any angle

except a right angle results in a great loss of power. Its interest depends, therefore, upon its ingenuity rather than its practical utility.

A New Lubricant.—Mr. B. Baker is employing a new lubricant under the gigantic girders of the Forth Bridge. This lubricant consists of crude petroleum and iron dust which has been found to materially decrease the friction between rubbing surfaces. It has previously been noticed that in trials of new engines the slides and pistons appear to work better when not too clean, and Mr. Westinghouse has found that railway brakes are less effective whenever the application of the brake is so powerful as to abrade the wheel. In both these cases the fine metallic dust appears to reduce friction, and it was from these and similar considerations that Mr. Baker adopted his novel lubricant.

The Severn Tunnel.—The completion of this great tunnel under the Severn is at last accomplished, and on September 15th the first passenger-train containing the Directors of the Great Western Company and their friends passed through the $4\frac{1}{4}$ miles of tunnel, which now unites the two sides of the Severn, and puts the port of Bristol and the south of England in direct railway communication with the coal-fields of Wales and the harbour of Milford Haven.

Explosion at Hell Gate.—An improvement in the Channel of the East River in New York Harbour was brought to a successful termination on October 10th, by the removal of nine acres of the rock known as Flood Rock. This area of rock had been honeycombed in every direction with galleries in which cartridges of an explosive known as "rackarock" were placed. A total amount of 240,000 lbs. of this explosive was used, and this large quantity was simultaneously exploded by an electric current from the adjoining shore. Rackarock is the invention of Mr. A. C. Rand, and consists of a mixture of nitrobenzol and chlorate of potash. It is much safer in preparation and storage than dynamite, while in exploding its action appear to be less disruptive than that material. The removal of this mass of rock will give a minimum depth of 26 feet of water in that part of the channel, and when followed by the removal of some smaller reefs will render this entrance to New York harbour a comparatively easy one. Upwards of five million dollars have been already spent in these improvements.

C. A. Buckmaster, M.A.

THE MUSIC OF THE YEAR 1885.

"VIRES acquirit eundo" may fairly be regarded as a faithful description of the state of music in England at the present day, and, remembering the nature of the art, it is obvious that this must ever be true of its progress in a country where it has any real life and development. Of music, unlike the sister arts of painting and sculpture, it may be said that each one who devotes himself to its practice becomes a centre of direct and sympathetic influence, drawing around him those who share his tastes, and stimulating them to fresh efforts after perfection. The painter can at the most only hope to win admiration and to secure, it may be, a certain reverence for his gifts: the number of his practical imitators must of necessity be few and far between. Common sense will alone be sufficient to prevent the multitude from making the fruitless endeavour to emulate the skill of the artist whose canvas excites their wonder, but with music the case is widely different, and its practice is directly stimulated by the enthusiasm of every fresh disciple. It is in this way that the elementary knowledge of the art has been spread throughout the country, and as the musician, professional or amateur, draws to his side those who are able to join him with instrument or voice, he is in reality working as a musical missionary, and is creating a new centre of inspiration, and it may be of earnest application. In other words, while the painter can, in the vast majority of cases, hope for little more than passive admiration, the musician is always sure of enlisting a band of active participators who will join him in his music making. The picture ends in itself: the piece of music, be it great or small, calls into exercise the faculties and the powers of all who desire to interpret it. Thus viewed, music stands out as the great popular humaniser, calculated to give not only pleasure but useful employment to all who surrender themselves to its charms, while it possesses this cardinal claim on the public interest, that its gifts are shared by all sections of society. That England has hitherto done but little as a nation, as far as grants from the Imperial exchequer are concerned, to encourage musical education, has long been a matter for regret, but private liberality has been equal to the occasion, and the army of singers and players bids fair to increase rather than diminish. The Royal Academy of Music, with its goodly roll of 455 students, still commands the confidence of the profession,

and the Royal College of Music, firmly established under Sir George Grove's able direction, has attracted by its scholarships and its excellent staff of teachers another large group of young workers. The Guildhall School of Music is also maintaining its reputation, and is, week by week, providing instruction for the citizens and for those numberless workers in the great commercial houses in the evening rest hours, when they wisely seek sweetness and light at the hands of the "heavenly maid."

In the wide field of the elementary schools of the country the work of musical instruction is making evident progress, and the wise step taken in giving a shilling per child for singing by note and sixpence for singing by ear has already borne fruit. From the Report of the Committee of Council on Education for 1884–5, we learn that the note-singing grant of one shilling per head has been earned in 5,285 school departments, or 24·25 per cent. of the whole school divisions in the country, representing an average attendance of 894,774, or 38·68 per cent. of the average attendance in England and Wales. This in effect shows that one-third of the children in the schools receiving Government grants have the opportunity of learning to sing by note placed within their reach, a reform which would have gladdened the heart of John Hullah, and reflects posthumous honour on his name and on his life-work. In the other elementary schools the sixpenny grant for singing by ear was paid in 16,147 departments, with an average attendance of 1,409,924, or 60·95 per cent. of the whole number of children returned as in average attendance, and it was only in 186 departments that no grant was paid, and in 116 of these no attempt was made to teach singing. The inspection in music by a qualified musician of the children earning these grants is still a thing of the future, but the students in the training colleges, the majority of whom have passed through the elementary schools, first as scholars and then as pupil teachers, are annually examined by Dr. Stainer and his assistants, Mr. MacNaught and Mr. W. A. Barrett. Dr. Stainer, who makes a report of his second year of work as Dr. Hullah's successor, writes very briefly, and, in justification of keeping the standard necessary for a "pass" in his examinations somewhat low, he says that a large number of students who have only just managed to "scrape through" his examinations have afterwards become not only zealous but highly successful teachers of music in their schools. The "pass," Dr. Stainer admits, "does not imply a high musical efficiency," but

those students who are granted full marks are, he says, capable of undertaking musical work of the highest kind. It is of course sufficiently obvious that the work of those who are charged with the duty of giving musical instruction to the students in the training colleges will be lightened when there has been a general levelling up in the elementary schools, and until that time comes Dr. Stainer is probably guided by a sound discretion in dealing somewhat leniently with the young people who appear before him on his visits to the colleges.

The Musical Association is continuing its useful work in "the investigation and discussion of subjects connected with the science and art of music," and in its eleventh session from October, 1884, to June, 1885, papers were read by Dr. C. H. Parry, Dr. Crow, Professor Macfarren, Mr. Charles Santley, Mr G. A. Osborne, Mr. W. H. Cummings, and Mr. G. F. Cobb, a list of names fairly representative of English musicians in the many-sidedness which is one of their most noteworthy characteristics. Dr. Parry, who was elected two years ago to the office of choragus of the University of Oxford in succession to the late Dr. Corfe, took for his theme the somewhat abstruse question of "*Some Bearings of the Historical Method upon Music.*" Musicians, and composers more especially, could not, Dr. Parry showed, escape the necessity of mastering the work which had been done before their time, while the neglect of the historical method by the general public involved, he urged, their failure to appreciate great works, simply because they did not see how to take them, and were unable to trace the connection between those kinds of beauties which were familiar to them, and the beauties of a strongly different style. By a careful use of the historical method, by showing to the listener and the student the true place and position of certain works in the progress of musical development, they might be led to enjoy many things which at first seemed strange and uncouth to them, and, when they had mastered the technical side of the question, it was no long step for people with any musical perception whatever to learn to understand and enter into the ideas which the form of art is meant to convey. In the discussion which followed this interesting paper Dr. Stainer pleaded for expansiveness in every department of the musical art, in the development of instruments, in the greater powers of executants, and in the freedom which should be allowed to the composer, this latter remark calling forth what sounded like a protest from Sir

George Grove, in favour of a more strict adherence to the traditional and established forms of composition, as found in the symphony and the sonata. Dr. Stainer, on the other hand, claimed for music that it is comparatively in its infancy, and then the two learned gentlemen proceeded to find a point of agreement in contrasting architecture, which Sir George Grove characterised as a "dead art," with music as a "living art."

A paper by Dr. Crow, the organist of Ripon Cathedral, "*On Certain Peculiarities in Instruments of the Clarinet Family*," served to call forth a singularly able discussion on the scientific side of the Association's work, and then, in two of those admirable addresses which the Principal of the Royal Academy of Music is so well qualified to give, Professor Macfarren offered to the members an appreciative and exhaustive sketch of *Handel and Bach*, and drew an instructive comparison between their works and their respective styles. Several singular coincidences between the two great musicians were happily pointed out—they were near to each other in the time and place of their birth, eminent over all the world as organists, and each consecrated his genius to the serious and sacred side of the art; and then the Professor dealt with the points of contrast between them: Handel quick in the production and transcription of his works, Bach slow and almost laborious; Handel helped from the first by good advice and able teaching, Bach almost untaught, and yet nursed in an atmosphere of music from his very cradle. Melody and harmony were, as Dr. Macfarren cleverly put it, Bach's oxygen and carbon, and counterpoint the nitrogen, which he inhaled with them as the very breath of life. In the style of the two giants, the breadth, grandeur, and solidity of effect noticeable in Handel, so that the very word Handel is a synonym with sublimity, were contrasted, by Dr. Macfarren, with the exuberant elaboration of Bach, an elaboration so great, as he justly said, that, "save in a few instances, one cannot without a large amount of intimacy, comprehend the full meaning of the author." In summing up the characteristics of the two composers, Dr. Macfarren furnished what was in effect a justification of Dr. Lloyd's plea at the earlier meeting, for the use of the historical method in the study and treatment of the art, by showing how deeply indebted Handel and Bach were to their predecessors. "One finds in their contrapuntal writing the reflection of the usages of prior ages. One finds in their prodigious employment of

chromatic harmony a forecast of everything that is good, and which has come into general use since their time."

In a paper on *The Vocal Art*, Mr. Charles Santley, one of the foremost English singers of our day, set forth the need of elocutionary power, clear enunciation, and the power of modulation to express varying sentiments and passions as the essentials of good vocal performance, the possession of a sonorous voice being of course accepted as a *sine quâ non*. Mr. Santley claimed, as a pre-eminent distinction for English singers, that "you will find in no country in the world as good, clear execution as you do in England," and as a reason for this excellence, he pointed to the practice of what he termed the highest style of music—oratorio music, and especially that of Handel, which requires the most perfect execution of all. The justice of Mr. Santley's claim cannot be denied, and we believe that his theory on the question is equally well founded. A paper by Mr. G. A. Osborne on *The Emotional and Sympathetic Effects of Poetry, Painting, and Music*, a brief sketch of the history of *Music Printing* by Mr. W. H. Cummings, and an essay on *Musical Psychics* by Mr. G. F. Cobb, completed the sessional programme.

In the work of the year in connection with higher musical education, an act of liberality on the part of the Court of Common Council of the City of London deserves honourable mention. The Guildhall School of Music under Mr. Weist Hill, with its roll of distinguished professors and teachers, and its vast body of students, has been much hindered in its work by lack of room, and it is therefore with special satisfaction that we note the vote of 20,000*l.* for the erection of a permanent home for the School on the Thames Embankment. In France, the municipal authorities have done much to encourage musical education by supporting the teaching of singing in the communal schools at the cost of the ratepayers, but in this case the Corporation has, out of its own property and without any direct cost to the citizens, resolved to execute this important work. The progress of the school is so satisfactory that it will more than repay the donors for their munificence.

As indirectly connected with the educational work of the year, the interesting, and in some respects unique, collection of ancient and modern musical instruments in the South Kensington Inventions Exhibition deserves mention here, if only to suggest that many of the works exhibited might fitly be arranged as the nucleus of a permanent collection, such as that which is attached to several

of the Conservatoires de Musique in the Continental cities. It was a favourite scheme with Mr. John Ella, the venerable director of the now unhappily defunct Musical Union, to devote his personal store of musical instruments, pictures, books, and antiquities to this object, and if a well-planned scheme could be put forward it would doubtless meet with the ready support of professors and amateurs. As, however, there are now three Musical Academies in the metropolis, each with strong claims to public confidence, and with large bodies of students—the Royal Academy, the Royal College of Music, and the Guildhall School of Music—the site of any such museum of musical instruments ought to be central, so that it might be equally available for the pupils of each school and of the numerous other semi-public schools of music in and around London. An interesting series of manuscripts relating to the early history of music has been conveniently placed for inspection in some cases in the manuscript department of the British Museum.

In the concert room the year has been a busy one, for, in addition to an exhibition of more than average energy on the part of our native conductors, we have had a prolonged visit from Herr Richter with his orchestra, who provided at St. James's Hall a series of programmes studded with great names, save and except those of English musicians. The Philharmonic Society, after trying the system of divided responsibility, has reverted to the plan of entrusting its fortunes to a single hand, and general approval was secured by Sir Arthur Sullivan's appointment to the conductorship. The Society, in pursuance of what may be regarded as a very legitimate part of its functions, offered a prize for the best orchestral work which might be submitted to its judges, and the award of twenty guineas went to a young German resident in England, Herr Gustav Ernest, for a Dramatic Overture. Among the new works produced by the Society during the year was an orchestral suite of high excellence by Mr. Wingham. At the Sacred Harmonic Society also there was a change in the conductorship. In the previous year the direction of the concerts had been entrusted to Mr. Hallé, and the chorus rehearsals to Mr. Cummings, but for the season of 1885 the committee determined to give the whole of the work to Mr. Cummings, who has amply justified their confidence. The increasing interest and co-operation of amateurs in the practice and performance of orchestral works is a noticeable feature in the musical progress of the country, and at a concert given in

London by the Strolling Players Amateur Orchestral Society, at which only six out of the hundred players were professional musicians, the programme included Gade's Second Symphony, and a Suite by Saint Saens was played for the first time in England. The Saturday concerts at the Crystal Palace were marked by all their usual excellence.

In the range of choral music, the Handel Festival at Sydenham, which the celebration of the Handel Bi-centenary brought round a year before the usual triennial period, was the event of the year. For the second time Mr. Manns, who had at the Festival of 1883 conducted on very short notice owing to Sir Michael Costa's illness, was at the head of affairs, and the special efforts which he had made for some months before the Festival week, in personally superintending choir rehearsals at various centres in the provinces, contributed materially to the very satisfactory rendering of the music. At the public rehearsal on the great orchestra, he departed from his predecessor's plan of simply treating the day's work as a first hearing of the Festival, and made it a genuine rehearsal, to the obvious improvement of the subsequent performances. The *Messiah* and the eight-voiced *Israel* filled the programme on the first and last days, but on the Wednesday several numbers not hitherto included in the Festival programmes were introduced, including the concerto for double orchestra, and the sonata for violin allotted to all the "first fiddles" in the monster band. The "violence" done to the composer's intentions formed the subject of sundry protests, but the complete accord and the delicacy of light and shade which Mr. Manns obtained from his great composite fiddle disarmed criticism, and the sonata was a splendid performance. Vocal excerpts from the "Occasional Oratorio," "Hercules," "Xerxes," "Atalanta," and "St. Cecilia's Day," gave fresh proof, if proof were needed, that there is still enough and to spare in the great Saxon's works to impart freshness to a Handel Festival programme for many years to come. This was not the only recognition accorded to the Bi-centenary, for at Westminster Abbey—the original home of Handel celebrations—a special Festival was held, under the direction of Dr. J. Frederick Bridge, when a full orchestra assisted, and Madame Albani was one of the chief vocalists—the admission of a lady as one of the choristers being completely in keeping with the earlier Handel Festivals, if not with more recent ecclesiastical usages.

In the field of unaccompanied Choral Concerts the revival or

reconstruction of Mr. Henry Leslie's Choir, with its founder in his old place in the conductor's chair, must be chronicled as one of the most welcome events of the season, but due credit must also be given to the societies which, in the interregnum, had come to the front, and are still likely to do useful work, more especially to the South London Musical Association, under Mr. Venables. Although, as titled, a transpontine institution, the Society gave its performances at St. James's Hall, where the excellent singing of the choir met with thorough appreciation. In many of the suburbs of London the local musical associations appear to be in a flourishing condition, one of the most successful being the Borough of Hackney Choral Association, of which Mr. Prout is the conductor. The concerts given by this Society in the far east were in choice of programme and quality of execution quite equal to those of the older musical bodies in the metropolis.

Among the provincial festivals of the year which fall within our record, due honour must be given to the Edinburgh Orchestral Festival, which has, under Sir Herbert Oakeley's tenure of the Reid Chair of Music, formed an acceptable extension of the annual Reid Concert provided for by the statutes. The programme of the festival—the sixteenth of Sir Herbert's series—included a fine group of classical works from Bach to Dvorak, worthily interpreted by Mr. Hallé's Manchester orchestra. A few weeks later the University Musical Society, of which the Reid Professor is the President, gave its annual concert, in which Handel's overture to "Athaliah," and Sir Frederick Ouseley's "St. Polycarp," both new to North Britain, were included. No better illustration of the advantage which an adequately endowed musical chair may bring, not only to the men of the university, but to the city in which it is established, could be given than is afforded by the work accomplished by Sir Herbert Oakeley. His organ recitals in the Music Class Room continue to attract large and intelligent audiences. Although Cambridge can only reckon upon occasional visits from its distinguished Professor, Sir G. A. Macfarren, the local representatives of the art have given to the University a musical name, not only in England, but throughout Europe, and the works of Dr. Villiers Stanford are becoming as well known on the continent as in this country. At the University Amateur Musical Society's Concert, in February, Dr. Stanford's "Elegiac Ode," first heard at the Norwich Festival in the preceding

autumn, was admirably performed, and Herr Joachim was one of the soloists.

The Birmingham Festival of 1885 will long be remembered as one of the most interesting and successful of the long series of music meetings in the seven-hilled city. Its programme was rich in novelties, including Gounod's "Mors et Vita," Cowen's cantata "Sleeping Beauty," Dvorak's "Spectre's Bride," and Dr. Villiers Stanford's "Three Holy Children." Herr Richter, whose selection as the successor to Sir Michael Costa for the post of conductor was the subject of considerable criticism, secured a fine rendering of the music from first to last. The Bristol Festival, conducted by Mr. Charles Hallé, contained not a single novelty of importance, but its programme had many interesting features, including Handel's "Belshazzar" and Berlioz' "Faust."

Of the Italian opera season of 1885 the less said the better, as far as artistic results are concerned. In English Opera Mr. Carl Rosa gave some admirable performances in London and in the provinces.

The losses by death in the musical world have been greater in the year under review than in any single year within the last decade, and at the head of the list common consent will place the name of Sir Julius Benedict, the favourite pupil of Weber, and one of the most deservedly popular of those naturalised foreigners, who by force of ability, no less than by their personal qualities, have won a high place amongst us. Sir Julius will be remembered as the composer of the "Gipsy's Warning," the "Brides of Venice," and the "Lily of Killarney;" of "Undine," "Richard Cœur de Lion," "St. Cecilia," "Graziella," and "St. Peter;" while in the active exercise of his profession he did good work as conductor of the Norwich Festival, of the Liverpool Philharmonic Society, and of the Monday Popular Concerts, at which from the time of their establishment his presence at the pianoforte was always welcome, for he was in truth a very prince of accompanists. Another name intimately associated with Mr. Chappell's concerts, that of Mr. J. W. Davison, the writer of the analytical programmes, is also found in the obituary. He was for many years the musical critic of the *Times*, until his place was taken by Dr. Franz Hueffer, and he also acted as editor of the *Musical World*. An able and accomplished writer on music, he was one of the few members of the journalistic fraternity who combined facility

in literary composition with accurate musical knowledge, and he was also an accomplished practical musician. Mr. Wm. H. Holmes, another veteran, and the master of the late Sterndale Bennett, died in April, after a long and honoured service as Professor of the Royal Academy of Music. The Academy also has to mourn the loss of Mr. Brinley Richards, who as student and professor had been working within its walls for more than half-a-century, and of its President, that liberal and art-loving nobleman, Earl Dudley, a modern Mecænas of a type too seldom met with. Among the vocalists of repute who died during the year may be named Signor Brignoli, who had been heard in Italian Opera in London, and Madame Sainton-Dolby, who after a long career as a singer in oratorio and in the concert-room, had devoted herself to teaching, and was noted for her skill in imparting a sound and pure style to her pupils. Another name which reminds us that musical gifts are often shared in a high degree by ladies is that of Mrs. Meadows White, better known as Alice Mary Smith, whose student days at the Royal Academy of Music gave promise of a successful career which was more than fulfilled. Her orchestral and choral works included the "Ode to the Passions," produced at the Hereford Festival of 1882, and her music to the "Masque of Pandora," with several excellent overtures.

On the continent the death of Herr Ferdinand Hiller, the eminent Musik-director of Dusseldorf and Cologne, at the good old age of threescore and ten, takes away an art-worker in the highest sense of the word, for while constantly engaged as a teacher and concert giver he contrived to compose many conscientious works. Franz Abt will be remembered as the writer of simple and tuneful lieder, and of melodious part songs, among which some for men's voices have obtained a wide popularity in this country.

ENGLISH PHILANTHROPY IN 1885.

THE record of English philanthropy for the year 1885 is shadowed by the recollection that two of the greatest practical benefactors of the race have during the twelve months been withdrawn from the ranks of the workers, one, full of years, dying at home, surrounded by his family, the other far away, cut down in the prime of life by the fanatics whom he would fain have served, without a friendly hand to succour or a friendly voice to cheer. The wise and far-reaching benevolence of the Earl of Shaftesbury, as seen in the legislation for the oppressed factory hands and the little chimney-climbers which he initiated and carried through Parliament, in the great ragged school enterprise which he headed and guided until it became a national institution, and in the encouragement which he gave to many of the religious societies, will ever form a bright page in the history of the century, while it also furnishes a noble example to his brethren, recalling with striking force the truth of Kingsley's words—

> Howe'er it be, to me it seems
> 'Tis noble only to be good.
> Kind hearts are more than coronets,
> And simple faith than Norman blood.

And of like mind with the noble Earl was Charles Gordon, the martyr to a noble impulse, the splendid example of devotion to the call of duty. In his leisure hours General Gordon strove, as Lord Shaftesbury did, to raise the outcast and the degraded; and a firm belief in the possibilities of life, even for the least hopeful, may be said to have been the secret of their efforts. Personal service was the rule of their lives, and as it is precisely this form of philanthropy which is most needed at the present day, it would be as unwise as it would be ungrateful to leave their noble efforts unnoted in any chronicle of the year's good deeds.

Turning from the dead to the living, we are met by the pleasant spectacle of continued activity in that most admirable form of charity—the attempt to brighten the lives and homes of the people. The Act for the better housing of the working classes is in itself a genuine piece of philanthropy, and involving, as it did, much personal investigation on the part of many of the Royal Commissioners, on whose Report it is based, it is a worthy first fruit of their labours. To help the poor to help themselves

is the truest wisdom, and as another movement in the same direction we welcome several important additions to the number of the aptly termed "home hospitals" and self-supporting dispensaries as a proof that a determination to begin at the right end is laying hold of the public mind. Concurrently with this system, under which the patients or their friends are invited to pay what they can afford, is growing up the equally advantageous practice of providing home nursing for the poor from local centres in the various districts. The daily visit of the trained nurse, who is usually a lady with that *savoir faire* which, apart from her Christian aim, makes her welcome at every bedside, is valuable not only for its own sake but for the influence which it carries with it and leaves behind it, and the lessons in making home comfortable, and in literally as well as metaphorically smoothing the sick man's pillow, will be found to bear fruit long after the immediate cause for the visit has passed away.

Scarcely less praiseworthy is the scheme suggested and carried out by Miss Louisa Jackson, a daughter of the late Bishop of London, for sending resident lady visitors to poor and crowded parishes. This genuine "women's work for women" is, Miss Jackson finds, readily undertaken by ladies of culture and gentle birth, who are ready to give their services provided that some small contribution is made towards the cost of their board and lodging. It ought not to be impossible to find a sufficient sum to establish in every district where the need exists a house for such beneficent workers, whose presence brings a ray of light into many dark places where want of sympathy is often the cause of the most exquisite pain. In some favoured spots local strength may be sufficient for local needs, but in every crowded city there are men and women who yearn for a friendly word, and to whom the presence of a Miss Marsh or a Sister Dora may be an infinite boon. Miss Jackson speaks confidently of the possibility of finding ladies ready to do all that is needed if the funds for their partial support are forthcoming.

The almost parallel movement, by which men of high social position and intellectual attainments are being brought side by side with the world's workers, not for a night or a day, but as settlers among them, following each other in willing succession at a permanent house in the very midst of the people, has been attended with gratifying success. Oxford has already two colonies in the east end of London, the one in Whitechapel, happily named Toynbee Hall, after an earnest young philanthropist, and

the other in Bethnal Green. From Cambridge a similar outflow of sympathy has reached the big city, and centres of social and religious work have been established in South and West London. The main distinction between the Oxford and the Cambridge schemes is that the Oxford workers are chiefly laymen banded together by that community of life which is the true germ of the university ideal, while from Cambridge the workers have been more generally clergymen whose stipends are furnished by certain colleges. In both cases, however, the benefit to the University must be great in providing a wholesome corrective to selfish luxuriousness by constantly recalling the existence of much that is sad and saddening in the national life, while those among whom the work is being carried forward are not slow to testify their appreciation of the workers.

In the field of localised philanthropic effort we have little progress to record, as far as the greatest of our medical institutions —the London Hospitals—are concerned. Their buildings have in several cases been enlarged, but their number remains what it was at the time of our last survey. The efforts made to reform abuses and to remedy errors of management have been in many cases successful, but it would be idle to ignore the fact that in a still considerable number of instances beds are filled by patients whose friends are able to contribute towards the cost of their treatment and maintenance. This ought not to be, and it will be a good day for the hospitals when the vicious system is discontinued. It is a double wrong, for it not only involves the exclusion of the really needy, but it also deprives the medical practitioners of their rightful income. The scheme for erecting a new hospital for North London has given place to a far wiser effort to strengthen the Great Northern Hospital at King's Cross, and public feeling seems to be generally turning in favour of smaller local hospitals. One great advantage to which the advocates of the smaller institutions can lay claim is the manifest gain to the poor, who are saved long and troublesome journeys, while the subdivision of the out-patients at a larger number of centres is also likely to result in a reduction of the pain and annoyance inevitable under the present system. The weary hours of "waiting for their turn," with which the out-patients in many of the great hospitals become familiar, largely counterbalance the admitted benefit of the advice of the eminent physicians whose presence so naturally attracts the multitude.

Among the new societies and institutions of the year not a few,

in the form of institutions for youths and young men, bear the name of General Gordon. The scheme for a national memorial to the hero of Khartoum has, after much discussion, taken the shape of a Boys' Camp, in which waifs and strays are to be received and trained, the earlier proposal for an International Hospital at Port Said having fallen through owing to local difficulties. There is, it is satisfactory to note, a decided disinclination to establish new societies to do work which is already being wholly or partially done by existing organisations, and, if the vested interests of divers officials could be safeguarded, there are many cases in which a process of amalgamation might be carried out with the best results. No further steps have been taken to secure effective legislation for the suppression of fraudulent charities, but it is much to be desired that a measure should be passed enforcing the registration of all societies, and the publication of duly audited balance sheets, showing the proportion which the working expenses bear to the voluntary subscriptions. If Friendly Societies in which every investor may be supposed to have an interest sufficiently direct to lead him to keep a watchful eye on the financial arrangements are compelled—and very wisely compelled—to register and to submit copies of accounts, and if insurance companies are bound to produce their balance sheets, it ought scarcely to be needful to argue in favour of the registration of societies which undertake to dispense public benefactions. It is indeed only because the experience of the law courts so often proves that "the greater the truth the greater the libel," that men shrink from the task of showing that there is urgent need for diminishing the number of duplicated agencies, and for compelling secretaries to show cause for their existence. Possibly when the thousand and one questions which make up the stock in trade of party politicians have been dealt with, such elementary matters as the management of the benevolent societies of the country may receive the attention they deserve. The necessity for action in this direction becomes more obvious day by day, for it is little short of a scandal that while the rent roll of the London Charities is as vast as it is there should exist a dead weight of unrelieved misery which seems to increase rather than diminish year by year.

One of the still remaining needs of the day is an increase in the number of Homes for Incurables, and although for more than twenty years this matter has been pressed upon the attention of

the public, the want remains unsupplied, and the fact that admission to the chief institution of this class is restricted to those who can obtain the largest number of votes leaves a friendless sufferer almost without hope. It is doubtless a sound principle which led the Council of the Metropolitan Hospital Sunday Fund to refuse to admit the Royal Home for Incurables to its list of assisted charities, on the ground that it cannot legitimately be classed as a hospital in the ordinary sense of the word, but it is distressing to contemplate the misery which an incurable malady means when the sufferer is without resources. The way in which public liberality has of late years multiplied the number of convalescent homes affords substantial ground for the belief that a well supported appeal for a National Home for Incurables, on a scale worthy of the English people, with a system of pension in certain cases, would meet with a cordial response. When the jubilee of Queen Victoria forms the subject of countless loyal demonstrations, would not such a scheme form a worthy object for the thank-offerings which the country will be only too willing to give in grateful recognition of the blessings of Her Majesty's long and happy reign?

In the year of the mayoralty which has closed, and which will be memorable in the annals of the City in having witnessed a double succession to the civic throne, the lamented death of Lord Mayor Nottage having been followed by Lord Mayor Fowler's return to office, the following amounts were collected for special Mansion House Funds :—

Clifton Hall Colliery Fund	£1,400
Cholera in Spain Fund	4,200
Gordon Memorial Fund	21,700

According to our annual custom we append a table showing the receipts for the Metropolitan Hospital Sunday Fund from its commencement in 1873 down to the present date :—

1873	... ...	£27,700	
1874	... ...	29.936	
1875	... ...	26,396	
1876	... ...	27,042	
1877	... ...	26,083	
1878	... ...	24,904	
1879	... ...	£26,501	
1880	... ...	30,404	
1881	... ...	31,000	
1882	... ...	34,424	
1883	... ...	33,935	
1884	... ...	39,329	
1885	... ...	£34,320.	

In 1884 a sum of 4,500*l.*, the produce of a fête at the International Health Exhibition, was included in the total. The number of contributing congregations in 1885 was 1,597, as compared with 1,522 in the preceding year.

TABLE OF ALL THE PUBLIC GENERAL ACTS

PASSED IN THE SIXTH SESSION OF THE TWENTY-SECOND PARLIAMENT OF GREAT BRITAIN AND IRELAND.

48 & 49 VICTORIÆ. A.D. 1884, 1885.

(The Acts are given in the order in which they were passed, the number denoting the chapter. An abstract of those Acts distinguished by an asterisk is given in the pages following this table, which contain a classified epitome of the more important statutes passed during the session.)

***1. An Act to grant to Her Majesty additional Rates of Income Tax.**

(Grants duties of Income Tax, in addition to those granted by 47 & 48 Vict. c. 25; Customs and Inland Revenue Act, 1884.)

2. An Act to apply the sum of £2,049,000 out of the Consolidated Fund to the service of the year ending on the 31st March, 1885.

***3. An Act for amending the Law relating to the Representation of the People of the United Kingdom.**

(Defines household and lodger qualification and other franchises, and applies enactments relating thereto (s. 7).
Amends and extends 31 & 32 Vict. c. 48; Representation of the People (Scotland) Act, 1868.
Defines Representation of the People Acts and Registration Acts.
Defines and applies Rating Acts.
Construes Act as one with Representation of the Peoples Act.
Repeals (with savings) the following enactments:—
„ 2 & 3 Will. 4, c. 45, s. 20 in part, and s. 27; Representation of the People in England and Wales.
„ 2 & 3 Will. 4, c. 65, ss. 9 and 11 in part; Representation of the People in Scotland.
„ 13 & 14 Vict. c. 69, ss. 1 and 5; Parliamentary Voters (Ireland).
„ 30 & 31 Vict. c. 102, s. 6; Representation of the People Act, 1867.
„ 31 & 32 Vict. c. 48, s. 6; Representation of the People (Scotland) Act, 1868.
„ 31 & 32 Vict. c. 49, s. 3; Representation of the People (Ireland) Act, 1868.
„ 17 & 18 Vict. c. 91, s. 2 in part; Valuation of Lands and Heritages (Scotland).
„ 31 & 32 Vict. c. 48, s. 15; Representation of the People (Scotland) Act, 1868.)

4. An Act to amend the forty-third section of the Yorkshire Registries Act, 1884.

(Amends s. 43 of 47 & 48 Vict. c. 54; Yorkshire Registries Act, 1884.)

5. An Act to amend Part II of the Tramways and Public Companies (Ireland) Act, 1883.

(Amends Part II of 46 & 47 Vict. c. 43; Tramways and Public Companies (Ireland) Act, 1883.)

6. An Act to apply certain sums out of the Consolidated Fund to the service of the years ending on the 31st March, 1884, 1885, 1886. (£12,934,834 5*s.* 7*d.*)

7. An Act to authorise an advance to the Government of the Colony of the Cape of Good Hope.

(Authorises temporary advance of £400,000 to Cape Government for making a railway.
Applies and extends 29 & 30 Vict. c. 25; Exchequer Bills and Bonds Act, 1866.
,, 40 & 41 Vict. c. 2; Treasury Bills Act, 1877.)

*8. An Act to provide, during twelve months, for the Discipline and Regulation of the Army.

(Continues and amends 44 & 45 Vict. c. 58; Army Act, 1881.)

*9. An Act to relieve Municipal Voters from being disqualified in consequence of letting their dwelling-houses for short periods.

(Extends 41 & 42 Vict. c. 3; House Occupiers Disqualification Removal Act, 1878.
,, 41 & 42 Vict. c. 5; House Occupiers Disqualification Removal (Scotland) Act, 1878.
Applies 45 & 46 Vict. c. 50; Municipal Corporations Act, 1882.
,, 35 & 36 Vict. c. 33; Ballot Act, 1872.)

*10. An Act to extend the Hours of Polling at Parliamentary and Municipal Elections.

(Extends the Hours of Polling at Parliamentary and Municipal Elections.
Repeals (upon Act coming into operation) 41 & 42 Vict. c. 4; Parliamentary Election (Metropolis) Act, 1878, and 47 & 48 Vict. c. 34; Elections (Hours of Poll) Act, 1884.
Act comes into operation at the end of this present Parliament.)

11. An Act to enable Her Majesty to give a Guarantee for the purpose of facilitating the raising of a Loan by the Government of Egypt.

(Enables Her Majesty to guarantee annuity of £315,000 for loan to be raised by the Egyptian Government.)

12. An Act to amend the Law relating to the distribution of the Royal Irish Constabulary Force.

(Repeals s. 3 in part of 33 & 34 Vict. c. 83; Constabulary (Ireland) Amendment Act, 1870.
Substitutes power of distribution conferred on Lord Lieutenant by this Act for that in s. 3 of 20 & 21 Vict. c. 17; Constabulary Force (Ireland).)

*13. An Act to amend the Law relating to Highways.

(Amends 5 & 6 Will. 4, c. 50; Highway Act, 1835.
Act only extends to the counties of Wilts, Dorset, Somerset, Devon, and Cornwall.)

14. An Act to apply the sum of £13,315,334 out of the Consolidated Fund to the service of the year ending on the 31st day of March, 1886.

*15. An Act to assimilate the Law affecting the Registration of Occupation Voters in Counties and Boroughs, and for other purposes.

(Repeals 2 & 3 Will. 4, c. 45, s. 78; Representation of the People (England and Wales).
,, 6 Vict. c. 18, s. 40, and Schedule A, Parliamentary Registration Act, 1843.
28 & 29 Vict. c. 36, ss. 4. 5, 12, and Schedule A; County Voters Registration Act, 1865.
,, 30 & 31 Vict. c. 102, s. 30 in part; Representation of the People Act, 1867.
,, 31 & 32 Vict. c. 58, ss. 17 and 19; Parliamentary Electors Registration Act, 1868.
Amends and applies 6 & 7 Vict. c. 18; } Parliamentary Registration Acts.
,, ,, 41 & 42 Vict. c. 26; }
Applies 30 & 31 Vict. c. 102; Representation of the People Act, 1867.
,, 35 & 36 Vict. c. 33; Ballot Act. 1872.
,, 36 & 37 Vict. c. 70; Revising Barristers Act, 1873.
,, 37 & 38 Vict. c. 50; Municipal Corporations Act, 1882.)

16. An Act to amend the Law regulating the Registration of Voters in Scotland; and for other purposes relating thereto.

(Repeals 24 & 25 Vict. c. 83, s. 4 in part, and s. 5; County Voters Registration (Scotland) Act, 1861.
" 31 & 32 Vict. c. 48, s. 16 in part; Representation of the People (Scotland) Act, 1868.
" 16 & 17 Vict. c. 28, s. 2 in part; County Elections Polls (Scotland).
" 30 & 31 Vict. c. 80, s. 10; Valuation of Lands (Scotland) Amendment Act, 1867.
Applies s. 7 of 17 & 18 Vict. c. 91; Valuation of Lands, &c. (Scotland).)

17. An Act to amend the Law relating to the Registration of Parliamentary Voters in Ireland, and for other purposes connected therewith.

(Re-enacts, with amendments, certain enactments (as shown in the Second Schedule) contained in 35 & 36 Vict. c. 33 (Ballot Act, 1872) and in 36 & 37 Vict. c. 2 (Polling Districts (Ireland) Act, 1873.
Amends and applies 13 & 14 Vict. c. 69; Parliamentary Voters (Ireland) Act, 1850.
" 48 & 49 Vict. c. 3; Representation of the People Act. 1884.
" 30 & 31 Vict. c. 102; Representation of the People Act, 1867.
Applies Parliamentary Registration Acts.)

*18. An Act to extend the Area to which the Metropolitan Streets Act, 1867, applies.

(Amends 31 & 32 Vict. c. 134; Metropolitan Streets Act, 1867.)

19. An Act further to facilitate the building, enlargement, and maintenance of Industrial Schools in Ireland.

(Incorporates certain clauses (as to borrowing money) of 10 & 11 Vict. c. 16; Commissioners Clauses Act, 1847.)

20. An Act to amend the Law relating to the Admission of Barristers in Ireland.

*21. An Act to amend the Law with respect to Contested Elections of Burial Boards.

*22. An Act to provide for Expenses incurred in relation to Conferences of Local Authorities.

(Applies 38 & 39 Vict. c. 55; Public Health Act, 1875.)

*23. An Act for the Redistribution of Seats at Parliamentary Elections, and for other purposes.

(Repeals the following enactments respecting corrupt practices:—
" 30 & 31 Vict. c. 102, ss. 13, 14, 15, and 16; Representation of the People Act, 1867.
" 33 & 34 Vict. c. 21, ss. 2, 3, 4, and 5; Bridgewater and Beverley Disfranchisement.
" 33 & 34 Vict. c. 25; Norwich Voters Disfranchisement.
" 33 & 34 Vict. c. 38, ss. 2, 3, and 4; Sligo and Cashel Disfranchisement.
" 33 & 34 Vict. c. 54; Dublin City Voters Disfranchisement.
" 34 & 35 Vict. c. 77; Norwich Voters Disfranchisement,
Amends 6 & 7 Vict. c. 18; Registration of Voters.
" 13 & 14 Vict. c. 69; Parliamentary Voters (Ireland).
" 35 & 36 Vict. c. 33; Ballot Act, 1872.
" 48 & 49 Vict. c. 3; Representation of the People Act. 1884.
Applies 2 & 3 Will. 4, c. 45; Representation of the People (England and Wales).
" 3 & 4 Vict. c. 108; Municipal Corporations (Ireland).
" 18 & 19 Vict. c. 120; Metropolis Management Act, 1855.
" 38 & 39 Vict. c. 55; Public Health Act, 1875.
" 45 & 46 Vict. c. 50; Municipal Corporations Act, 1882.
" 46 & 47 Vict. c. 51; Corrupt and Illegal Practices Prevention Act, 1883.
" Lands Clauses Consolidation Acts.
Disfranchises the boroughs of Macclesfield and Sandwich.

24. An Act to enable Her Majesty to settle an Annuity on Her Royal Highness the Princess Beatrice Mary Victoria Feodore.

(Enables Her Majesty to grant an annuity of 6,000*l.* to Princess Beatrice.)

25. An Act for making provision for the transfer to the Secretary of State in Council of India of Unclaimed India Stock and Dividends and for amending the East Indian Railway Company Purchase Act, 1879, and the East Indian Railway (Redemption of Annuities) Act, 1881; and for other purposes.

(Amends 42 & 43 Vict. c. 206; East Indian Railway Company Purchase Act, 1879.
" 44 & 45 Vict., c. 53; East Indian Railway (Redemption of Annuities) Act, 1881.)

26. An Act to amend the Yorkshire Registries Act, 1884.

(Amends 47 & 48 Vict. c. 54; Yorkshire Registries Act, 1884.)

*27. An Act to declare the true meaning of Section 22 of the Friendly Societies Act, 1875.

(Declares the true meaning of s. 22 of 38 & 39 Vict. c. 60; Friendly Societies Act, 1875.)

28. An Act to enable the Secretary of State in Council of India to raise Money in the United Kingdom for the Service of the Government of India. (£10,000,000).

(Applies s. 4 of 5 & 6 Will. 4, c. 64; Stamps and Assessed Taxes.)

*29. An Act to enable Municipal Corporations to confer the Honorary Freedom of Boroughs upon persons of distinction.

(Applies 45 & 46 Vict. c. 50; Municipal Corporations Act, 1882.)

30. An Act to amend the Local Loans Act, 1875, as regards the establishment of a Sinking Fund.

(Amends 38 & 39 Vict. c. 83; Local Loans Act, 1875.)

31. An Act for amending the Ecclesiastical Commissioners Acts, and for other purposes.

(Amends 3 & 4 Vict. c. 113; 36 & 37 Vict. c. 64; } Ecclesiastical Commissioners Acts, 1840 and 1873.

*32. An Act to amend and extend the Acts relating to the redemption of Tithe Rent-charge in England and Wales.

(Amends 6 & 7 Will. 4, c. 71;
" 1 Vict. c. 69;
" 1 & 2 Vict. c. 64;
" 2 & 3 Vict. c. 62;
" 3 & 4 Vict. c. 15;
" 5 & 6 Vict. c. 54;
" 9 & 10 Vict. c. 73;
" 10 & 11 Vict. c. 104;
" 23 & 24 Vict. c. 93;
" 36 & 37 Vict. c. 42;
" 41 & 42 Vict. c. 42; } Redemption of Tithe Rent-charge.)

*33. An Act to amend the Metropolis Management Acts.

(Amends 18 & 19 Vict. c. 120, &c., Metropolis Management Acts.)

*34. An Act to declare and explain the sixty-eighth section of the Waterworks Clauses Act, 1847.

(Declares and explains s. 68 of 10 & 11 Vict. c. 17; Waterworks Clauses Act, 1847; and repeals such of the provisions of that Act as are inconsistent with this Act.)

35. An Act to amend the Public Health Act, 1875, in relation to Ships and Port Sanitary Authorities.

(Amends 38 & 39 Vict. c. 55; Public Health Act, 1875, in relation to ships and port sanitary authorities.)

36. An Act to provide for the regulation of land held by one of Her Majesty's Principal Secretaries of State or a Volunteer Corps for an Artillery or Rifle Range, or a School of Gunnery, or like purposes.

(Amends and applies 26 & 27 Vict. c. 65; Volunteer Act, 1863.
Applies Lands Clauses Acts.)

37. An Act to continue certain Turnpike Acts, and to repeal certain other Turnpike Acts; and for other purposes connected therewith.

(Continues certain Turnpike Acts, and repeals certain other Turnpike Acts, as set forth in Schedules 1 to 4, and in sections 5 to 7.)

*38. An Act to amend the Law relating to School Boards so far as affected by the incorporation of a Municipal Borough and as respects the divisions of the Metropolis.

(Amends and applies 45 & 46 Vict. c. 50; Municipal Corporations Act, 1882.
,, 33 & 34 Vict. c. 75: Elementary Education Act, 1870.
Construes Act, so far as relates to school boards on the incorporation of a municipal borough, with Municipal Corporations Act, 1882, and, so far as regards the divisions of the metropolis, with Elementary Education Acts, 1870 and 1873.)

39. An Act to enable the Sanitary Authorities in Ireland to take possession of land for the erection of temporary Cholera Hospitals.

40. An Act to provide for the application to charitable purposes of such portion of the property subject to the Will of Edward Polehampton as is now vested in the Crown, and for the management and application of the said property.

(Applies 16 & 17 Vict. c. 137; Charitable Trusts Act, 1853.)

41. An Act to make provision with respect to the maintenance of certain Piers and other works in the Estuary of the River Shannon.

(Incorporates Lands Clauses Acts (8 & 9 Vict. c. 18, &c.)
,, certain provisions of 10 & 11 Vict. c. 16 (Commissioners Clauses Act, 1847) and of 10 & 11 Vict. c. 27 (Harbours, &c., Act, 1847).
Applies 41 & 42 Vict. c. 52; Public Health (Ireland) Act, 1878.)

42. An Act to provide for defraying the Expenditure on account of Greenwich Hospital directly out of the Revenues of Greenwich Hospital; to amend in other respects the Greenwich Hospital Acts, 1865 to 1883; and to amend the law relating to the Naval Knights of Windsor.

(Repeals 33 & 34 Vict. c. 100; Greenwich Hospital Act, 1870.
Amends 28 & 29 Vict. c. 89; } Greenwich Hospital Acts.
,, 35 & 36 Vict. c. 67; }
,, 46 & 47 Vict. c. 32; }
,, 24 & 25 Vict. c. 116; } Knights of Windsor Acts.)
,, 30 & 31 Vict. c. 100; }

43. An Act to suspend for a period certain Payments on Annuities created under the National Debt Act, 1883; and to reduce for a like period the Permanent Annual Charge of the National Debt.

(Suspends certain payments on annuities.
Applies 46 & 47 Vict. c. 54; National Debt Act, 1883.)

44. An Act to raise the sum of £4,000,000 by Exchequer Bills or

Treasury Bills, for the service of the year ending on the 31st day of March, 1886.

(Applies 29 & 30 Vict. c. 25; Exchequer Bills and Bonds Act, 1866.
,, 40 & 41 Vict. c. 2; Treasury Bills Act, 1877.)

45. An Act to enable Her Majesty's Postmaster General to acquire lands in London, Birmingham, Bristol, and Newcastle-upon-Tyne for the public service.

(Incorporates Lands Clauses Acts (8 & 9 Vict. c. 18, &c.)
Exempts buildings to be erected under Act from operation of 18 & 19 Vict. c. 122; Metropolitan Buildings Act, 1855.)

*46. An Act to prevent Medical Relief disqualifying a person from voting.

*47. An Act to enable the Treasury to provide out of surplus funds arising under the Bankruptcy Act, 1883, office accommodation for officers appointed under the said Act.

48. An Act for restitution of the ancient dignity and title of Earl of Mar.

49. An Act to carry into effect an International Convention for the Protection of Submarine Telegraph Cables.

(Extends 25 & 26 Vict. c. 63; Merchant Shipping Act, 1862.
,, 46 & 47 Vict. c. 22; Sea Fisheries Act, 1883.
Incorporates Part X of 17 & 18 Vict. c. 104; Merchant Shipping Act, 1854.)

50. An Act further to amend the Acts relating to the raising of Money by the Metropolitan Board of Works; and for other purposes.

(Amends 47 & 48 Vict. c. 50; Metropolitan Board of Works (Money) Act, 1884.
Construes Act with Metropolitan Board of Works (Loans) Acts, 1869 to 1871, and Metropolitan Board of Works (Money) Acts, 1875 to 1884.
Applies Main Drainage Acts.
,, 18 & 19 Vict. c. 120; Metropolis Management Act, 1855.
,, 46 & 47 Vict. c. 27; Metropolitan Board of Works (Money) Act, 1883.
Empowers Board to expend moneys for purposes described in First Schedule.)

*51. An Act to grant certain Duties of Customs and Inland Revenue, and to amend the Laws relating to Customs and Inland Revenue.

(Customs:—
Continues Import Duties on Tea (6*d.* the pound).
Excise:—
Amends 43 & 44 Vict. c. 20; Inland Revenue Act, 1880.
Extends the term "beer" in the above Act and in Excise Licence Acts.
Repeals (with proviso) the following enactments:—
56 Geo. 3, c. 58; Prohibiting a liquor prepared from sugar for colouring Porter.
23 & 24 Vict. c. 129, s. 4; Spirit Duties.
25 & 26 Vict. c. 22, s. 20; Customs and Inland Revenue.
27 & 28 Vict. c. 12, s. 12; Warehousing of British Spirits.
28 & 29 Vict. c. 98, s. 12; British Compounded Spirits.
44 & 45 Vict. c. 12, s. 16; Customs and Inland Revenue Act, 1881.
45 & 46 Vict. c. 72, s. 4; Revenue, Friendly Societies, and National Debt Act, 1882.
Stamps:—
Grants duty on property of corporate and unincorporate bodies.
Income Tax:—
Grants duties of Income Tax, and applies former Acts.
Amends 5 & 6 Vict. c. 35; Property Tax.
,, 5 & 6 Vict. c. 80; Assessed Taxes.
,, 16 & 17 Vict. c. 34; Income Tax.
,, 24 & 25 Vict. c. 91; Inland Revenue.)

*52. An Act to amend the Law relating to Lunatics.

(Amends 16 & 17 Vict. c. 97; Lunatic Asylums Act, 1853, &c.)

*53. An Act to amend the Public Health Act, 1875, with respect to the Members and Officers of Local Authorities.

(Amends 38 & 39 Vict. c. 55; Public Health Act, 1875.)

*54. An Act to amend the Law relating to Pluralities.

(Amend and construes Act with 1 & 2 Vict. c. 106, and 13 & 14 Vict. c. 98; Benefices in Plurality.)

55. An Act to explain Section 34 of the Ecclesiastical Commissioners Act, 1840.

(Amends s. 34 of the above Act (3 & 4 Vict. c. 113).)

56. An Act to amend the Law with respect to Corrupt Practices at Parliamentary Elections.

(Amends the law as to leave of absence to employés to record their votes.

57. An Act to remove doubts as to the appointment of Revising Barristers.

(Removes doubts as to appointment of Revising Barristers.
Construes Act with 6 & 7 Vict. c. 18; Parliamentary Voters Registration Act, 1843.)

*58. An Act to amend the Telegraph Acts, 1863 to 1878.

(Amends 26 & 27 Vict. c. 112;
" 29 & 30 Vict. c. 3;
" 31 & 32 Vict. c. 110;
" 32 & 33 Vict. c. 73;
" 33 & 34 Vict. c. 88;
" 41 & 42 Vict. c. 76;
} Telegraph Acts.)

59. An Act to continue various expiring Laws.

(Continues (as specified in Schedule) the following Acts, and any unrepealed enactments amending the same, viz.:—
5 & 6 Will. 4, c. 27; Linen, &c., Manufactures (Ireland).
3 & 4 Vict. c. 89; Poor Rates (Stock in Trade Exemption).
4 & 5 Vict. c. 30; Survey of Great Britain.
4 & 5 Vict. c. 35; Copyhold, Inclosure, and Tithe Commissioners (now Land Commissioners).
4 & 5 Vict. c. 59; Application of Highway Rates to Turnpike Roads.
10 & 11 Vict. c. 98; Ecclesiastical Jurisdiction.
11 & 12 Vict. c. 32; County Cess (Ireland).
14 & 15 Vict. c. 104; Episcopal and Capitular Estates Management.
17 & 18 Vict. c. 102; Corrupt Practices Prevention.
23 & 24 Vict. c. 19; Dwellings for Labouring Classes (Ireland).
24 & 25 Vict. c. 109; Salmon Fishery (England).
26 & 27 Vict. c. 105; Promissory Notes.
27 & 28 Vict. c. 20; Promissory Notes, &c. (Ireland).
28 & 29 Vict. c. 46; Militia Ballots Suspension.
28 & 29 Vict. c. 83; Locomotives on Roads.
29 & 30 Vict. c. 52; Prosecution Expenses.
31 & 32 Vict. c. 125; Parliamentary Elections.
32 & 33 Vict. c. 21; Election Commissioners' Expenses.
32 & 33 Vict. c. 56; Endowed Schools (Schemes).
34 & 35 Vict. c. 87; Sunday Observance Prosecutions.
35 & 36 Vict. c. 33; Parliamentary and Municipal Elections (Ballot).
36 & 37 Vict. c. 48; Regulation of Railways.
38 & 39 Vict. c. 48; Police Expenses.
38 & 39 Vict. c. 84; Returning Officers' Expenses.
39 & 40 Vict. c. 21; Juries (Ireland).
41 & 42 Vict. c. 41; Returning Officers' Expenses (Scotland).
41 & 42 Vict. c. 72; Sale of Liquors on Sunday (Ireland).
43 Vict. c. 18; Parliamentary Elections.
46 & 47 Vict. c. 35; Diseases Prevention, Metropolis.
46 & 47 Vict. c. 51; Corrupt and Illegal Practices Prevention.)

60. An Act to constitute a Federal Council of Australasia.

*61. An Act for appointing a Secretary for Scotland and Vice-President of the Scotch Education Department.

(Authorises Her Majesty to appoint a Secretary for Scotland and Vice-President of the Scotch Education Department.)

*62. An Act to amend the Law relating to the Charges of Returning Officers at Parliamentary Elections.

(Amends 38 & 39 Vict. c. 84; Parliamentary Elections (Returning Officers) Act, 1875
,, 41 & 42 Vict. c. 41; Parliamentary Elections (Returning Officers Expenses) (Scotland). Act, 1878.
Construes Act, so far as regards England and Ireland, with the first-recited Act, and, so far as regards Scotland, with the second-recited Act.)

63. An Act to amend the Patents, Designs, and Trade Marks Act, 1883.

(Amends 46 & 47 Vict. c. 57; Patents, &c., Act, 1883.)

64. An Act to apply a sum out of the Consolidated Fund to the service of the year ending on the 31st March, 1886, and to appropriate the Supplies granted in this session of Parliament.

65. An Act to appoint Public Works Loan Commissioners, to grant Money for the purpose of Loans by the Public Works Loan Commissioners and the Commissioners of Public Works in Ireland, and for the purpose of loans and purchases by the Irish Land Commission, and to make other provisions relating to those Commissioners.

(Appoints Public Works Loan Commissioners for five years.
Grants £3,000,000 for Public Works Loans, and £1,500,000 for Public Works Loans in Ireland.
,, £100,000 to Irish Land Commission under 44 & 45 Vict. c. 49; Land Law (Ireland) Act, 1881, and under 46 & 47 Vict. c. 43; Tramways and Public Companies (Ireland) Act, 1883.
Applies 38 & 39 Vict. c. 89; 42 & 43 Vict. c. 77; } Public Works Loans Acts, 1875 and 1879.
,, 40 & 41 Vict. c. 27; Public Works Loans (Ireland) Act, 1877.
Makes provision as to certain loans.)

66. An Act to accelerate the hearing of Appeals under the Acts relating to the Registration of Voters in Ireland in the year 1885.

67. An Act to provide for the discharge of the liability of the Consolidated Fund in respect of certain Indian Army Pensions.

(Provides for the discharge of the liability of the Consolidated Fund in respect of certain Indian Army Pensions.)

68. An Act to amend the Metropolitan Police Staff Superannuation Act, 1875.

(Amends 38 & 39 Vict. c. 28; Metropolitan Police Staff Superannuation Act, 1875.)

*69. An Act to make further provision for the Protection of Women and Girls, the suppression of Brothels, and other purposes.

(Repeals 24 & 25 Vict. c. 100, s. 49, and s. 52 in part; Offences against the Person.
,, 38 & 39 Vict. c. 94; Offences against the Person.
Applies 25 & 26 Vict. c. 18; Whipping of Juvenile and other Offenders.
,, Summary Jurisdiction Acts.
,, 25 Geo. 2, c. 36; Disorderly Houses, &c.
,, 22 & 23 Vict. c. 17; Vexatious Indictments.
,, 24 & 25 Vict. c. 100; Offences against the Person.)

70. An Act to amend the Law relating to Scottish Sea Fisheries, and for other purposes relating thereto.

(Amends (so far as it applies to Scottish Sea Fisheries), and construes Act with
46 & 47 Vict. 22; Sea Fisheries Act, 1883.
,, 48 Geo. 3, c. 110; Fishery (Scotland).
Applies Sea Fishery Acts.
Transfers to Fishery Board certain powers of Board of Trade.

71. An Act to amend the County Officers and Courts (Ireland) Act, 1877, in relation to the Pensions of Clerks of the Crown and Clerks of the Peace.

(Amends 40 & 41 Vict. c. 56; County Officers and Courts (Ireland) Act, 1877.)

*72. An Act to amend the Law relating to Dwellings of the Working Classes.

(Amends 14 & 15 Vict. c. 34; 29 & 30 Vict. c. 28; 30 & 31 Vict. c. 28; } Labouring Classes Lodging Houses Acts, 1851 to 1867.
,, 31 & 32 Vict. c. 130; 42 & 43 Vict. c. 64; 45 & 46 Vict. c. 54 (Part II); } Artizans Dwellings Acts, 1868 to 1882.
,, 38 & 39 Vict. c. 36; 42 & 43 Vict. c. 63; 45 & 46 Vict. c. 54 (Part I); } Artizans and Labourers Dwellings Improvement Acts, 1875 to 1882.
,, and applies 38 & 39 Vict. c. 55; Public Health Act, 1875.
,, 45 & 46 Vict. c. 38; Settled Land Act, 1882.
,, 29 & 30 Vict. c. 44; Labouring Classes Lodging Houses and Dwellings (Ireland) Act, 1866.
,, 46 & 47 Vict. c. 60; Labourers (Ireland) Act, 1883.
,, and applies 38 & 39 Vict. c. 49; Artizans and Labourers Dwellings Improvement (Scotland) Act, 1875.
Applies 18 & 19 Vict. c. 120; Metropolis Management Act, 1855.
,, 29 & 30 Vict. c. 90; Sanitary Act, 1866.
,, 41 & 42 Vict. c. 52; Public Health (Ireland) Act, 1878.
,, 30 & 31 Vict. c. 101; Public Health (Scotland) Act, 1867.
Construes Act, as set forth in s. 14.)

73. An Act to provide greater facilities for the Sale of Land to occupying Tenants in Ireland.

(Amends and applies 44 & 45 Vict. c. 49; Land Law (Ireland) Act, 1881.
,, ,, 45 & 46 Vict. c. 38; Settled Land Act, 1882.
Incorporates certain sections of 21 & 22 Vict. c. 72; Landed Estates Court Act.
Applies 44 & 45 Vict. c. 41; Conveyancing, &c., Act, 1881.)

74. An Act to amend the Law relating to taking Evidence by Commission in India and the Colonies, and elsewhere in Her Majesty's Dominions.

(Amends and applies 22 Vict. c. 20; Evidence by Commission Act, 1859).

75. An Act to amend the Prevention of Crimes Act, 1871.

(Amends 34 & 35 Vict. c. 112; Prevention of Crimes Act, 1871.)

76. An Act for the preservation of the River Thames above Teddington Lock for purposes of public recreation, and for regulating the pleasure traffic thereon.

(Amends and applies 46 & 47 Vict. c. 79; Thames Act, 1883.
Recites in Schedule I the Acts relating to the Thames.)

77. An Act to amend the Labourers (Ireland) Act, 1883, and for other purposes connected with Labourers' Dwellings in Ireland.

(Amends 46 & 47 Vict. c. 60; Labourers (Ireland) Act, 1883.
Applies 44 & 45 Vict. c. 49; Land Law (Ireland) Act, 1881.
,, Lands Clauses Acts.
,, 23 & 24 Vict. c. 154; Landlord and Tenant Law Amendment Act (Ireland), 1860.
,, 41 & 42 Vict. c. 52; Public Health (Ireland) Act, 1878.)

73. An Act to re-organize the Educational Endowments of Ireland.
(Provides for the re-organization of the educational endowments of Ireland.)

79. An Act to amend the Law relating to the management of the Woods, Forests, and Land Revenues of the Crown.
(Amends 10 Geo. 4. c. 50; 14 & 15 Vict. c. 42; } Crown Lands Acts, 1829 and 1851.
,, 31 & 32 Vict. c 45; Sea Fisheries Act, 1868.
,, 15 & 16 Vict. c. 45; Sunk Island Roads Act, 1852.
Applies 31 & 32 Vict. c. 99; Turnpike Acts Continuance Act, 1868.
,, 41 & 42 Vict. c. 77; Highways and Locomotives (Amendment) Act, 1878.)

80. An Act for enabling Allowances to be made to the Officers of Poor Law Unions in Ireland, on abolition of Office.
(Amends 28 & 29 Vict. c. 26; Union Officers Superannuation (Ireland).
Applies 12 & 13 Vict. c. 104; Poor Relief (Ireland).)

ABSTRACTS OF IMPORTANT ACTS

PASSED IN THE SIXTH SESSION OF THE TWENTY-SECOND PARLIAMENT OF GREAT BRITAIN AND IRELAND.

1. THE CHURCH AND EDUCATION.

[48 & 49 Victoriæ, cap. 54.—6th August, 1885.]

An Act to amend the Law relating to Pluralities.

The short title of this statute is given in section 1 as "The Pluralities Amendment Act, 1885." Section 2 provides that it shall be construed with 1 & 2 Vict., c. 106, and 13 & 14 Vic., c. 98, both of which it amends. It is also provided that the term "ecclesiastical duties" in the first-mentioned Act and this Act shall include not only the regular and due performance of Divine service on Sundays and holidays, but also all such duties as any clergyman holding a benefice is bound by law to perform, or the performance of which is solemnly promised by every clergyman of the Church of England at the time of his ordination, and the performance of which shall have been required of him in writing by the bishop; and in the case of benefices within the dioceses of St. Asaph, Bangor, Llandaff, and St. Davids, and the county of Monmouth, it is also to include such ministrations in the Welsh language as the bishop of the diocese shall direct to be performed by the clergymen holding such benefices respectively, saving that in these cases no bishop is to require more than one service in the Welsh language on every Sunday in such church or chapel of ease in any such benefice, and that due provision must be made for the English-speaking portion of the population. Section 3 repeals section 77 of 1 & 2 Vict., c. 106, which named four beneficed clergymen of the diocese containing the benefice held by the incriminated clerk (one being the rural dean) as the commissioners to inquire into the inadequate performance of his duties, and names four commissioners under this Act, one of whom shall be an archdeacon or rural dean of the archdeaconry or rural deanery in which the benefice is situated; one a canon residentiary, prebendary, or honorary canon of the cathedral church of the diocese in which it is situated, to be elected; one a beneficed clergyman of the archdeaconry in which it is situated, to be elected; one a layman in the commission of the peace for the county in which the benefice is situated nominated for the purpose of such commission, on the requisition of the bishop, by the chairman of the quarter sessions for the county or division of the county last preceding such requisition, or if there be no such person, then by the lord lieutenant of the county; and it is to be lawful for the incumbent of the benefice whose neglect is being inquired into, to add to such commission one other commissioner, being either an incumbent of a benefice within the same diocese, or a magistrate in the commission of the peace. The bishop is to give to the incriminated clergyman notice in writing of his intention to issue the commission, and if

he does not within fourteen days after the sending of the notice nominate in writing to the bishop a commissioner to act with the other commissioners, the other commissioners may proceed alone. By section 4, deans and chapters of cathedrals, or the honorary canons where there is no dean and chapter, are after the passing of this Act, and subsequently at the end of every third year, to elect a member of their body to serve as a commissioner when required, the name of the person so elected being certified in writing to the bishop under the seal of the dean and chapter or the hands of any two of the electors. Section 5 similarly provides for the election by the beneficed clergy of each archdeaconry, whom the archdeacon is to convene for this purpose, of one of their number to serve as a commissioner, his name being certified to the bishop by the archdeacon. Section 6 empowers the bishop or any two or more of the commissioners to require the attendance of such witnesses, and the production of such documents, evidences, and writings as may be necessary on either side; and the bishop and commissioners respectively are to have the same powers for these purposes as now belong to the Consistorial Court and the Court of Arches respectively. Section 7 requires witnesses examined by the commissioners to give evidence on oath, or after affirmation where affirmation is allowed by law instead of an oath, the oath or affirmation being administered by a commissioner, and any witness wilfully swearing or affirming falsely being deemed guilty of perjury. By section 8 a bishop may assign an extra stipend up to 70*l.* to a curate appointed under 1 & 2 Vict., c. 106, section 77, under certain specified conditions, provided that the whole stipend when augmented does not exceed 150*l.*, except where the whole net income of the benefice exceeds 300*l.* a year. Section 9 provides that where the population of a benefice, the incumbent of which is non-resident, exceeds 2000, or where there are two or more churches belonging to the benefice not less than a mile apart, even if the annual value of the benefice be less than 400*l.*, the bishop may require the incumbent to nominate to him two or more curates; or if he neglects or omits to make such nomination for the space of three months after the bishop's requisition, his lordship may appoint and license two or more curates, and assign to them respectively such stipends as he thinks fit, not exceeding the stipends sanctioned by section 8, and provided that the whole of the two stipends do not exceed altogether two third parts of the net annual income of the benefice. The incumbent of the benefice is to be entitled to the like right of appeal to the archbishop as is provided by section 86 of 1 & 2 Vict., c. 106. By section 10 a bishop may assign to the curate or curates performing the duties of a benefice during a vacancy a sum not exceeding 200*l.* a year each, but such stipend is not to exceed in the whole the net annual income of the benefice. Section 11 provides that nothing in this Act is to prejudice the provisions of 1 Vict., c. 23, s. 15, or sections 91, 92, and 94 of 1 Vict., c. 106, or the provisions of the Ecclesiastical Dilapidations Act, 1871, or any mortgage or charge duly created under any Act of Parliament upon the profits of any benefice which may come under the operation of this Act. By section 12 a non-resident incumbent is not to return to his benefice or interfere with curate until the expiration of his licence of non-residence, without the bishop's

permission. Section 13 repeals section 78 of 1 & 2 Vict., c. 106, and in its place enacts that whenever the annual value of any benefice exceeds 500*l.*, and the population amounts to 3000, or where the population does not amount to 3000 if there is in the said benefice a second church or chapel with a hamlet or district containing 400 persons, the bishop is empowered, if he sees fit, to require the clergyman holding such benefice, although he is resident or engaged in performing the duties, to nominate a fit and proper person to be licensed as a curate to assist in performing the duties of such benefice, and to be paid by the holder of the benefice. If the incumbent does not nominate a fit person within three months after the bishop's requisition, his lordship may appoint and license a curate with a stipend not exceeding 150*l.* The section gives the incumbent, within one month after the service upon him of the bishop's requisition, liberty to appeal to the archbishop of the province, who is to approve or revoke the requisition or confirm or annul such appointment. Section 14 provides that any clergyman may with such licence or dispensation as is required by 1 & 2 Vict., c. 106, take and hold together any two benefices the churches of which are within four miles of each other by the nearest road, and the annual value of one of which does not exceed 200*l.*, or if on one of these benefices there be no church, then the distance between the two benefices for the purposes of this Act may be computed by the direction of the bishop of the diocese. Section 15 provides for the issue of notices under the Act by a prepaid registered letter, such issue being held to be sufficient if addressed to the parish or place of which he is incumbent, or if he is out of England without licence of non-residence and without having made provision for the performance of his ecclesiastical duties, then notice is to be given as provided by section 112 of 1 & 2 Vict., c. 106.

TITHE RENTCHARGE REDEMPTION.

[48 & 49 Victoriæ, cap. 32.—22nd July, 1885.]

An Act to amend and extend the Acts relating to the redemption of Tithe Rentcharge in England and Wales.

The preamble recites the desirability of amending and extending the provisions of the Act for the Commutation of Tithes (6 & 7 Will. 4, c. 71), and of the Acts passed to amend that statute. Section 1 gives the short title of the present Act as "The Tithe Rentcharge Redemption Act, 1885." Section 2 enacts that the powers and provisions of the recited Acts respecting the redemption of rentcharge (except as otherwise by this Act is provided) are to extend and be applicable to all corn rents, rentcharges, and money payments, payable out of or charged on any lands by virtue of any Act of Parliament in lieu of tithes. By section 3 it is required that every application to the Commissioners for the redemption of any corn rent, rentcharge, or money payment shall be accompanied by a certified copy or extract from the Act, and from any award made in pursuance thereof, showing the amount of the corn rent, rentcharge, or money payment proposed to be redeemed, and by such evidence or proof of the payment, together with such particulars of the land

liable thereto, as the Commissioners think fit; provided always, that if the said corn rent, rentcharge, or money payment should have been varied by any order of justices at quarter sessions, the consideration of money payable for the redemption is to be calculated on such varied amount, and a certified copy of the last of such orders or other satisfactory evidence of the variation is to be furnished to the said Commissioners, and such certified copies or extracts are to be verified and signed by the person or persons having the custody of the said Act, award, or order of justices respectively. By section 4 it is provided that in lieu of the deposit of copies of the certificate of redemption as provided by the said recited Acts, copies of every certificate of redemption under this Act, sealed with the seal of the Ecclesiastical Commissioners, are to be deposited with such person or persons as the Commissioners, having regard to the circumstances of each case, shall determine. Section 5 enacts that this Act is to be taken and construed as part of the original Tithe Commutation Act as amended and extended by the several Acts passed for its amendment.

SCHOOL BOARDS.

[48 & 49 Victoriæ, cap. 38.—31st July, 1885.]

An Act to amend the Law relating to School Boards, so far as affected by the incorporation of a Municipal Borough, and as respects the divisions of the Metropolis.

The preamble recites that difficulties have arisen respecting the effect of the creation by a charter of a municipal borough, where the whole or part of the area of such borough is comprised in the district of a school board, and that it is expedient to authorise the removal of such difficulties by a scheme under the said Act. Section 1 repeals the words "and not being a school board" in sub-section 6 of section 213 of "The Municipal Corporations Act," and provides that a scheme under that section, if affecting a school board—(*a*) shall before being settled by the Committee of Council be referred to the consideration of the Education Department; and (*b*) shall not place the new borough under more than one school board; and (*c*) may provide for the continuance of any byelaws in force at the date of the scheme. By the same section it is enacted that where within seven years before the passing of this Act a charter has extended "The Municipal Corporations Act, 1882," or the Acts thereby consolidated, to the municipal borough created by the charter, any scheme relating to a school board which might have been made under the said Acts if this Act had passed at the date of the said charter, may be made after the passing of this Act, and Part XI of "The Municipal Corporations Act, 1882," is to apply accordingly, provided that (*a*) such scheme may be made on the petition either of the council of the said borough or of the persons who composed the school board, or any of them; and (*b*) the council of the borough may petition against such scheme in accordance with sub-section 4 of section 213 of "The Municipal Corporations Act, 1882"; and (*c*) any such scheme may validate any acts done by the Education Department or the school board or the council of the borough or any justice since the date of the charter. This section is to be in addition

to and not in derogation of any powers in relation to school boards for the time being vested in the Committee of the Lords of the Privy Council on Education (who are in this section referred to as the Education Department). Section 2 provides for a re-partition of the Lambeth division of the metropolis, for the purposes of "The Elementary Education Act," into two divisions—East Lambeth and West Lambeth. After the date of the passing of this Act the Education Department is empowered to determine the boundaries of the divisions of East Lambeth and West Lambeth, and the number of members to be elected by each. By section 3 the short title of this statute is to be "The School Boards Act, 1885," and it is as to its first section to be construed as one with "The Municipal Corporations Act, 1882," and together with that Act may be cited as "The Municipal Corporations Acts, 1882 and 1885." As regards its latter part the Act is to be construed as one with "The Elementary Education Acts, 1870 and 1873," and may be cited with those Acts as "The Elementary Education Acts, 1870 to 1885."

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2. THE ARMY.

THE ARMY (ANNUAL) ACT.

[48 Victoriæ, cap. 8.—28th April, 1885.]

An Act to provide during twelve months for the Discipline and Regulation of the Army.

Section 5 of this Act amends section 88 of 44 Vict., c. 58, as to the form of proclamation for continuing soldiers in the Army Service, in order that the terms of the proclamation for this purpose may be assimilated to a proclamation under "The Reserve Forces Act, 1882." For sub-section 1 of "The Army Act, 1881," a new sub-section is to be enacted, providing that it shall be lawful for Her Majesty in Council, in case of imminent national danger or of great emergency, by proclamation—the occasion being first communicated to Parliament, if sitting, or, if not, to be declared by the proclamation—to order that the soldiers who would otherwise be entitled in pursuance of the terms of their enlistment to be transferred to the Reserve, shall continue in Army Service. It is also enacted that the Queen may, by any such proclamation, order a Secretary of State from time to time to give, revoke, or vary such directions as may seem necessary or proper for causing all or any of the soldiers mentioned in the proclamation to continue in Army Service. Every soldier ordered by such a proclamation to continue in the Service is to serve for the same period for which he would have been required to serve if he had been transferred to the Reserve and called out for permanent service by a proclamation of Her Majesty under the enactments relating to the Reserves. Section 6 amends section 171 of 44 & 45 Vict., c. 58, and provides that any power or jurisdiction given to, or any act or thing to be done by, or to, or before any person holding any military office, may be exercised by, or done by, to, or before any other person for the time being authorised to act according to the custom of the Service.

3. TRADE AND COMMERCE.

ADDITIONAL INCOME TAX, 1884.

[48 Victoriæ, cap. 1.—1st December, 1884.]

An Act to grant to Her Majesty Additional Rates of Income Tax.

Section 2 provides for the collection of an additional income tax of 1*d.* in the pound on the annual value or amount of property, profits, and gains chargeable under Schedules A, C, D, E of "The Customs and Inland Revenue Act, 1884," and ½*d.* in the pound on the annual value of the occupation of lands, tenements, hereditaments, and heritages chargeable under Schedule B of the same Act. By section 3 it is provided, as regards the additional duties on dividends, that where a half year's dividend has already been paid the remaining half year's dividend is to be charged with the additional duty of 2*d.*; or in cases where both the half-yearly payments have been made before the passing of this Act, the additional duty of 1*d.* is to be charged under Schedule D in respect of such payments as profits or gains, not charged by virtue of any other schedule, on statements of amount to be made by the persons who have received the same, and agents entrusted with the payment of the dividends, interest, or other annual profits or gains, are to furnish a list of such persons to the Inland Revenue Commissioners upon a requisition to do so. For determining the amount to be deducted by persons liable to make annual payments, the duty to be paid is to be deemed to be payable at the rate of 5*d.* for the first half year, and 7*d.* for the other half, provided that a charge or deduction of duty at the rate in conformity with "The Customs and Inland Revenue Act, 1884," and this Act, made before the passing of this Act, is to be deemed to have been a legal charge or deduction. Section 4 makes provisions for the collection of the additional duty.

CUSTOMS AND INLAND REVENUE DUTIES.

[48 & 49 Victoriæ, cap. 51.—6th August, 1885.]

An Act to grant certain Duties of Customs and Inland Revenue, and to amend the laws relating to Customs and Inland Revenue.

Section 2 continues the duty on tea imported into Great Britain or Ireland at 6*d.* in the pound. Section 3 provides for the allowances on British spirits exported from, or used in, warehouses in the United Kingdom to be for plain British spirits and spirits of the nature of spirits of wine, for every gallon, 2*d.*, and for every gallon of British compounded spirits, 4*d.* By section 4, the term "beer" in "The Inland Revenue Act, 1880," is to be construed to extend to any liquor which is made or sold as a description of beer or as a substitute for beer, and which on analysis of a sample thereof at any time shall be found to contain more than 2 per cent. of proof spirit. In the construction of any Act relating to Excise licences for the sale of beer, unless there is something in the subject or context inconsistent therewith, wherever the term "beer" is used in such Act, it is to have the

meaning assigned to it by section 2 of "The Inland Revenue Act, 1880," as extended by this section. Section 5 provides that on and after 1st October, 1885, the duty of Excise payable under "The Inland Revenue Act, 1880," on a licence to be taken out by a brewer of beer (not being a brewer of beer for sale), is to be 4*s*. in lieu of 6*s*. Section 6 amends section 20 of "The Inland Revenue Act, 1880," to the effect that when fermentation shall have commenced in any worts before the brewer has entered the quantity and gravity thereof in the book provided for that purpose, the true original gravity of such worts before fermentation is to be entered by the brewer. Section 7 contains a variety of provisions for the entry by every brewer who brews beer for sale of the amount of sugar and other saccharine substances used by him. He is to keep all such sugar in a room to be called the sugar store; he is not to receive any sugar unless it is accompanied by an invoice from the seller showing the marks on each package and the particulars of the description, and weight, or quantity of the contents; all sugar received is to be immediately deposited in the sugar store, and is not to be removed except for the purpose of being used in brewing in accordance with an entry in the book (called the brewing book) delivered and kept under section 20 of "The Inland Revenue Act, 1880." Further provision is made for the taking of accounts by the Inland Revenue officers of such sugar, and for the penalties to be imposed on brewers who fail to comply with the rules made for their guidance. Section 8 prohibits the adulteration of beer by brewers for sale, or by dealers or retailers of beer by the addition of any matter or thing thereto (except finings for the purpose of clarification or other matter or thing sanctioned by the Commissioners of Inland Revenue) before the same is delivered for consumption, and any beer found to be adulterated or mixed with any other matter or thing (except as aforesaid) in the possession of a brewer of beer for sale, or of a dealer in or retailer of beer, is to be forfeited, and the offender is to incur a fine of 50*l*. Section 9 enacts that the powers and provisions contained in any Act relating to excise allowances, and to penalties and forfeitures under Excise Acts, now or hereafter in force, are to be in force for the purposes of this Act. In part 2 of the statute, section 11 imposes duties on the property of bodies corporate and unincorporate, at the rate of 5*l*. per cent. on the annual value, income, or profits of such property accrued to such body corporate or unincorporate in the yearly period ending on 5th of April, 1885, or the same day in any succeeding year, after deducting therefrom all necessary outgoings, including the receiver's remuneration, and costs, charges, and expenses properly incurred in the management of such property. The following property is to be exempted from such duties: (1) the property of any department of Government; (2) property which, or the income of profits whereof, is legally appropriated and applied for the benefit of the public at large or of any county, shire, borough, or place, or the ratepayers or inhabitants thereof, or in any manner expressly prescribed by Act of Parliament; (3) property which, or the income or property whereof, is legally appropriated and applied for any purpose connected with any religious persuasion, or for any charitable purpose, or for the promotion of education, literature, science, or the fine arts; (4) property of any

friendly society or savings bank established according to Act of Parliament; (5) property belonging to or constituting the capital of a body corporate or unincorporate established for any trade or business, or being the property of a body whose capital stock is so divided and held as to be liable to be charged to legacy duty or succession duty; (6) property acquired by or with funds voluntarily contributed to any body corporate or unincorporate within a period of thirty years immediately preceding the passing of this Act; (7) property acquired by any body corporate or unincorporate within a period of thirty years immediately preceding where legacy duty or succession duty has been paid upon its acquisition. Section 12 defines the terms used in the Act. Section 13 places the duty imposed by this Act under the care of the Commissioners of Inland Revenue for collection and management. Section 14 makes the duty here imposed a first charge on the property in respect of which it is levied. Section 15 requires bodies chargeable with the duty to make returns of their property to the commissioners. Section 16 empowers every accountable officer to retain or raise out of any moneys of any body corporate or unincorporate which shall be held by him, or shall come to his hands, the full amount of all moneys which he shall pay or has paid on account of the duty hereby imposed, and all reasonable expenses incident to such payments. Sections 17 to 20 contain further provisions for carrying out the Act. Section 21 alters the stamp duties payable on any security for money bearing date, or signed, or offered for subscription, after the passing of this Act, and given to a subscriber in respect of a loan raised by any company or corporation, and transferable by delivery, and upon a foreign security, bearing date or signed, or offered for subscription, after the passing of this Act, and transferable by delivery. The duty on these documents is to be at the rate of 1*s.* for every 10*l.*, and for any fractional part of 10*l.* of the money thereby assured. The third part of the statute provides for the income tax for the year which commenced 6th April, 1885, at 8*d.* in the pound on property, profits, and gains chargeable under Schedules (A), (C), (D), or (E), of 16 & 17 Vict., c. 34, and for every pound of the annual value of the occupation of lands, tenements, hereditaments, and heritages chargeable under Schedule (B) of the said Act; in England the duty of 4*d.*, in Scotland and Ireland, respectively, the duty of 3*d.*

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4. LOCAL GOVERNMENT.

HOURS OF POLLING.

[48 Victoriæ, cap. 10.—28th April, 1885.]

An Act to extend the Hours of Polling at Parliamentary and Municipal Elections.

Section 1 provides that at every Parliamentary and every municipal election within the meaning of this Act, the poll (if any) shall commence at eight o'clock in the forenoon, and be kept open till eight o'clock in the afternoon of the same day and no longer. Section 2

defines the terms used in the Act. "Parliamentary Election" includes all constituencies, except Universities, which return members; the term "Municipal Election" means an election of a councillor, commissioner of police, or auditor; or in Ireland, an alderman, or any commissioner in any municipal borough or ward thereof. By section 3, upon this Act coming into operation "The Parliamentary Election (Metropolis) Act, 1874," and "The Elections (Hours of Poll) Act, 1884," are repealed, without prejudice to anything previously done in pursuance thereof. By section 4 the short title of the statute is given, "The Elections (Hours of Poll) Act, 1885." Section 5 fixes the end of this present Parliament as the time for the Act to come into operation.

MUNICIPAL VOTERS' RELIEF.

[48 Victoriæ, cap. 9.—28th April, 1885.]

An Act to relieve Municipal Voters from being disqualified in consequence of letting their Dwelling-houses for short periods.

The preamble recites that by "The House Occupiers' Disqualification Removal Act, 1878," provision was made that a man should be entitled to be registered as an inhabitant occupier of a dwelling-house under the third section of "The Representation of the People Act, 1867," notwithstanding that during a part of the qualifying period, not exceeding four months in the whole, he should, by letting or otherwise, have permitted the qualifying premises to be occupied as a furnished house by some other person, similar provisions being made as regards Scotland; and it is set forth that it is expedient to extend the said Acts to voters at municipal elections. Section 1 gives the short title as "The Municipal Voters' Relief Act, 1885." Section 2 provides that from the time of the passing of this Act a man shall not be disqualified from being enrolled or voting as a burgess at any municipal election in a borough, in respect of the occupation of any house, by reason only that during a part of the qualifying period, not exceeding four months in the whole, he has, by letting or otherwise, permitted such house to be occupied as a furnished dwelling-house by some other person, and during such occupation by another person has not resided in or within seven miles of the borough. Section 3 defines the terms used in the Act. Section 4 reduces the qualifying period of occupation in Ireland from two years and eight months to twelve months preceding the 1st day of September.

HIGHWAY ACT AMENDMENT.

[48 Victoriæ, cap. 13.—21st May, 1885.]

An Act to amend the Law relating to Highways.

The preamble declares it expedient to amend certain provisions of "The Highway Act, 1835," 5 & 6 Will. 4, c. 50, so far as they relate to the cutting or pruning of hedges, and the powers and duties of highway boards in reference thereto. Section 1 gives the short title of the statute as "The Highway Act Amendment Act, 1885." Section 2 gives a highway board power to cut, prune, or pare a hedge

or prune or lop trees or remove them if they cause an obstruction, where in their opinion the highway is prejudiced, or an obstruction is caused by any hedge or tree, or by any bank, or by anything growing on such bank, provided the consent of the owner and occupier of the premises on which the hedges, trees, or obstruction is situated has been first obtained. Section 3 limits the operation of the Act to the counties of Wilts, Dorset, Somerset, Devon, and Cornwall.

METROPOLITAN STREETS.

[48 Victoriæ, cap. 18.—21st May, 1885.]

An Act to extend the Area to which the Metropolitan Streets Act, 1867, applies.

The preamble recites that by the Act 30 & 31 Vict., c. 134, the general limit of its operation was a circle with Charing Cross as its centre, and the radii four miles in length, measured in a straight line from the Cross, and the "special limits" were to mean such streets or portions of streets as might afterwards be prescribed. Section 1 gives the short title as "The Metropolitan Streets Act, 1885," and provides for it to be construed with the Act of 1867, and cited with it as "The Metropolitan Streets Acts, 1867 and 1885." Section 2 extends the limits of the Act by substituting "six miles" for "four miles" in section 4 of the Act of 1867.

BURIAL BOARDS (CONTESTED ELECTIONS).

[48 and 49 Victoriæ, cap. 21.—25th June, 1885.]

An Act to amend the Law with respect to Contested Elections of Burial Boards.

The preamble declares the expediency of making provision with respect to the payment of expenses incurred in contested elections of burial boards appointed by vestries. Section 1 gives the short title of the statute as "The Burial Boards (Contested Elections) Act, 1885." By section 2 the reasonable expenses incurred in taking a poll of the ratepayers of any parish or part of a parish on the occasion either of the appointment or re-appointment by the vestry of persons to be the burial board for such parish or part of a parish, or of the filling up by the vestry of any vacancy or vacancies on such burial board, are to be defrayed by the burial board in the same manner as if they were expenses incurred by such board in carrying the Burial Acts into execution, and the outlay may be included in any certificate to the overseers in respect of the expenses of the burial board.

HONORARY FREEDOM OF BOROUGHS.

[48 & 49 Victoriæ, cap. 29.—22nd July, 1885.]

An Act to enable Municipal Corporations to confer the Honorary Freedom of Boroughs upon persons of distinction.

Section 1 gives to Borough Councils—anything in "The Municipal Corporations Act, 1882," or any other statute to the contrary notwithstanding—power by the authority of not less than two-thirds of their number present and voting at a meeting of the council

specially called for the purpose, to admit to the honorary freedom of the borough persons of distinction and any persons who have rendered eminent services to the borough. It is, however, provided that the admission of such persons to be freemen shall not confer the right of voting for any such borough in parliamentary or other elections, or of sharing in the benefit of any hereditaments, common lands, or public stock of such borough or the council thereof, or of any property held in whole or in part for any charitable use or trust.

PUBLIC HEALTH AND LOCAL GOVERNMENT CONFERENCES.

[48 & 49 Victoriæ, cap. 22.—25th June, 1885.]

An Act to provide for Expenses incurred in relation to Conferences of Local Authorities.

Section 1 gives the short title of the statute as "The Public Health and Local Government Conferences Act, 1885." Section 2 authorises a local authority, when empowered by and subject to any regulation of the Local Government Board for that object, to charge to any rates applicable to the general purposes of "The Public Health Act, 1875," within their district, the reasonable expenses of any member or members, or clerk to the local authorities, incurred in attending any conference or meeting of members of local authorities, held for the discussion of any matter connected with the duties devolving upon them. By section 3, the expressions used in the Act are to have the same meaning as in "The Public Health Act, 1875," except that in England the term "local authority" is not to include the urban authority of any borough. Section 4 applies the Act to Ireland.

MANAGEMENT OF THE METROPOLIS.

[48 & 49 Victoriæ, cap. 33.—31st July, 1885.]

An Act to amend the Metropolis Management Acts.

Section 1 provides for an addition to the representation on the Board of Works of the vestries of the parishes of St. Mary, Islington, Lambeth, St. Pancras, St. Mary Abbot, Kensington, and of the Board of Works for Wandsworth, who are in future to elect three persons to be members of the Board; also of the vestries of Camberwell and Paddington, and the Boards of Works of the Greenwich, Hackney, and Poplar districts, who are each to return two members. By section 2 the districts of Plumstead and Lewisham are, after the passing of this Act, to cease to be united for the purpose of electing a member to the Board of Works, and each district is to elect a separate member. Section 3 provides that on and after 25th March, 1886, the Board of Works of Fulham district shall be dissolved, and the vestries of St. Peter and St. Paul, Hammersmith and Fulham, shall from that date be incorporated and have such powers and be subject to all such provisions as if they had been named in Part II of Schedule A of the chief Act. The vestry of each of the said parishes is on the said day to elect one member to the Metropolitan Board. The remaining sections supply details for the carrying out of these changes.

WATER RATE DEFINITION.

[48 & 49 Victoriæ, cap. 34.—31st July, 1885.]

An Act to declare and explain Section 68 *of "The Waterworks Clauses Act,* 1847."

The preamble recites that by 10 & 11 Vict., c. 17, it was provided that the water rate should be payable according to the annual value of the tenement supplied with water, and that questions have arisen whether the above-recited provision may not in the metropolis mean other than the rateable value as settled from time to time by the local authority duly constituted. Section 1 explains the words in the above clause, "the annual value of the tenement supplied with water," to mean within the unions and parishes to which "The Valuation of Property (Metropolis) Act, 1869," extends, the rateable value as settled from time to time by the local authority as duly constituted: Provided that where the water rate is chargeable on the annual value of a part only of any hereditament entered in the valuation list, such annual value shall be a fairly apportioned part of the rateable value of the whole tenement, ascertained as aforesaid, the apportionment in case of dispute to be determined in manner provided by the said section. By section 2 "The Waterworks Clauses Act, 1847," and this Act shall, for the purposes of this Act, be construed together as one Act, and the provisions of this Act shall to that extent be held to repeal and supersede such of the provisions of that Act as are inconsistent with this Act. By section 3 this Act may be cited for all purposes as "The Water Rate Definition Act, 1885."

PUBLIC HEALTH AUTHORITIES: MEMBERS AND OFFICERS.

[48 & 49 Victoriæ, cap. 53.—6th August, 1885.]

An Act to amend "The Public Health Act, 1875," *with respect to the Members and Officers of Local Authorities.*

Section 1 gives the short title of the statute as "The Public Health (Members and Officers) Act, 1885," and provides for its reading as one with "The Public Health Act, 1875." Section 2 amends section 193 of the Public Health Act, by providing that, notwithstanding anything in that section or any similar restrictions in any local Act to the contrary, it shall not be unlawful for any officer or servant appointed or employed under the principal Act or local Act by the local authority to be concerned or interested in any contract with the local authority made with such consent or approval as is hereinafter mentioned for the sale, purchase, leasing, or hiring of any lands, rooms, or offices, or to be concerned or interested in any contract with the local authority as a shareholder in any joint stock company, and no officer or servant of a local authority is to be incapable of holding any office or of being employed under the principal Act or local Act, or be liable to any penalty by reason only of his having been concerned or interested either before or after the passing of this Act in any such contract as aforesaid. No such contract as aforesaid is to be made after the passing of this Act, or approved if made before the passing of this Act, for the sale, purchase, leasing, or hiring of any lands,

rooms, or offices, except with the consent of two-thirds of the number of the members of the local authority present at a meeting held after seven clear days notice has been published in some newspaper circulating in the neighbourhood, and after notice has been sent in writing to every member stating the nature of the contract, and the time and place of the meeting at which the question is to be considered. Under section 3, proceedings for the recovery of any penalty under Rule 70 of Schedule II to the principal Act are not to be taken except with the consent in writing of the Attorney-General. Under section 4 no member of any local authority is to vacate his office by reason only of his having any share or interest in any newspaper in which any advertisement is inserted relating to the affairs of such local authority, or of the district subject to the jurisdiction of such local authority, anything in any general or local Act of Parliament to the contrary notwithstanding.

HOUSING OF THE WORKING CLASSES.

[48 & 49 Victoriæ, cap. 72.—14th August, 1885.]

An Act to amend the Law relating to Dwellings of the Working Classes.

Application of the Lodging Houses Acts.

By section 1 "The Labouring Classes Lodging Houses Acts," 38 & 39 Vict., c. 55, and 18 & 19 Vict., c. 120, may be adopted for the City of London by the Commissioners of Sewers; for the metropolis (exclusive of the City) by the Metropolitan Board of Works, if one of Her Majesty's Principal Secretaries of State approves of such adoption; for any urban sanitary district by the Urban Sanitary Authority of the district in accordance with section 10 of "The Public Health Act, 1875"; or in any rural sanitary district by the Rural Sanitary Authority upon publication of a certificate by the Local Government Board, and after compliance with certain conditions. Section 2 defines the expression "lodging-houses for the labouring classes" when used in the Acts 1851–57, to be deemed to include separate houses or cottages for the labouring classes, whether containing one or several tenements, and the purposes of the Act are to be deemed to include the provision of such houses or cottages. Land for the purposes of the said Acts as amended by this Act may be acquired by the proper authority in each case as if the purposes in view were purposes of "The Public Health Act, 1875." It is also provided that in the event of the removal from their present sites of Milbank Penitentiary or Pentonville Penitentiary, the Queen on the recommendation of the Commissioners of the Treasury, and subject to such conditions as they may think desirable, and in the event of the removal of the Coldbath Fields Prison, or the House of Detention, Clerkenwell, it shall be lawful for the Justices of the Peace for Middlesex, if they think fit to do so, to sell or convey the sites or any part to the Metropolitan Board of Works at a fair market price.

Removal of Insanitary Houses.

Section 4 amends 31 & 32 Vict., c. 130, by providing that the owner of any premises who is required by an order of a local authority,

made under "The Artisans' and Labourers' Dwellings Act, 1868," to execute any works on, or to demolish, any premises, shall cease to have the power to require the local authority to purchase such premises. By section 5 "The Artisans' and Labourers' Dwellings Improvements Acts, 1875 to 1882," are to extend to all urban sanitary districts. In cases where (*a*) an officer of health has reported to any local authority under "The Artisans' and Labourers' Dwellings Act, 1868," that any premises are in a state dangerous to health so as to be unfit for human habitation, or under section 80 of "The Artisans' Dwellings Act, 1882," that the pulling down of any obstructive dwellings would be expedient, and the authority resolves that the case is of such general importance that it should be dealt with by a scheme under the Acts 1875 to 1882; or, (*b*) where such an official representation as is mentioned in section 3 of "The Artisans' and Labourers' Dwellings Improvement Act, 1875," has been made to the Metropolitan Board of Works, and the Board considers that the case is not of general importance to the metropolis and should be dealt with under "The Artisans' Dwellings Acts, 1868 to 1882"; then the local authority or Board may submit its resolution to one of Her Majesty's Principal Secretaries of State. On its receipt, the Secretary of State may appoint an arbitrator and direct him to hold a local inquiry, and he is to report to the Secretary of State as to whether, having regard to the size of the area, the number of houses to be dealt with, the position, structure, and sanitary condition of such houses, and of the neighbourhood thereof, and to the provisions of section 3 of "The Artisans' and Labourers' Dwellings Improvement Act, 1875," the case is either wholly or partially of any and what importance to the metropolis at large, and such arbitrator is empowered to report that in the event of the case being dealt with under "The Artisans' Dwellings Acts, 1868 to 1882," the Metropolitan Board of Works ought to make a contribution in respect of the expense of dealing with the case. The Secretary of State, after considering the report of the arbitrator, may decide that the case shall be dealt with either under "The Artisans' Dwellings Acts, 1868 to 1882," or under "The Artisans' and Labourers' Dwellings Improvement Acts, 1875 to 1882," and the officer of health or other proper officer is forthwith to make the report or official representation necessary for proceedings in accordance with such decision. Where an arbitrator has, under "The Artisans' and Labourers' Dwellings Improvement Acts, 1875 to 1882," determined the amount of compensation, no appeal is to lie to a jury from the decision without leave of the High Court of Justice, but such court or any judge thereof at chambers may grant such leave upon application in a summary manner, and upon being satisfied that a failure of justice will take place if the leave is not granted.

Loans for Works under the Act.

By section 6 any loan by the Public Works Loan Commissioners in pursuance of "The Labouring Classes Lodging Houses Acts, 1851 to 1867," or of "The Artisans' Dwellings Acts, 1868 to 1882," or of "The Artisans' and Labourers' Dwellings Improvement Acts, 1875 to 1882," "The Artisans' and Labourers' Dwellings Improvement (Scotland) Act, 1875," and any Acts amending the same, or of any of such Acts, or for labourers' dwellings in pursuance of "The Public Works Loans

Act, 1875," is to bear such rate of interest, not less than 3*l.* 2*s.* 6*d.* per cent., as the Commissioners of the Treasury may from time to time authorise as being in their opinion sufficient to enable the loans to be made without loss to the Exchequer, but this rule is to cease to be of effect after the 31st December, 1888.

Enforcement of Sanitary Laws.

Section 7 impresses on local authorities intrusted with the execution of laws relating to public health and local government the duty of putting in force from time to time as occasion may arise the powers with which they are invested, so as to secure the proper sanitary condition of all premises within the area under their control. Section 8 gives every sanitary authority power to make bye-laws for the matters specified in section 90 of "The Public Health Act, 1875," without waiting for any declaration of the Local Government Board, that the section is in force within the district of that authority. Section 9 declares that a tent, van, shed, or similar structure used for human habitation, which is in such a state as to be a nuisance or injurious to health, or so overcrowded as to be injurious to the health of the inmates, whether or not members of the same family, is to be deemed to be a nuisance within the meaning of section 91 of "The Public Health Act, 1875;" and the provisions of that Act are to apply accordingly. A sanitary authority may make bye-laws for promoting cleanliness in, and the habitable condition of such structures, for preventing the spread of infectious disease by the persons inhabiting the same, and generally for the prevention of nuisances in connection with them. Where any person duly authorised by a sanitary authority or by a justice of the peace has reasonable cause to suppose either that there is any contravention of the provisions of this Act or of any bye-law made under this Act in such structures, or that there is in any such structure any person suffering from a dangerous infectious disorder, he may, on producing (if demanded) either a copy of his authorisation purporting to be certified by the clerk or a member of the sanitary authority or some other sufficient evidence of his being authorised, enter by day such tent, van, shed, or structure, and examine it and every part of it in order to ascertain whether within it there is any contravention of any such bye-law or a person suffering from a dangerous infectious disorder. For the purposes of this section, "day" means the period between six o'clock in the morning and the succeeding nine o'clock in the evening. If the person inspecting is obstructed in the performance of his duty under this section, the person so obstructing is to be liable, on summary conviction, to a fine not exceeding 40*s.* This section is to apply to the metropolis, with the substitution of section 19 of "The Sanitary Act, 1866," for section 91 of "The Public Health Act, 1875," and of nuisance authority under "The Nuisance Removal Acts," for sanitary authority. Nothing in this section is to apply to any tent, van, shed, or structure erected or used by any portion of Her Majesty's military or naval forces. Section 10 contains provisions as to bye-laws and local enquiries. Section 11 amends 45 & 46 Vict., c. 38, as regards the erection of buildings for the working classes, and section 12 imposes as a condition of letting houses for the working classes, that in any contract for such letting it shall be implied that the house is at

the commencement of the holding in all respects reasonably fit for human habitation. Section 13 contains definitions of terms used in the Act; section 14 provides for its construction with preceding Acts; section 15 applies the Act to Ireland; section 16 applies it to Scotland; section 17 gives its short title as "The Housing of the Working Classes Act, 1885;" and section 18 repeals certain Acts named in the schedule.

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5. LAW AND JUSTICE.

AMENDMENT OF THE LUNACY ACTS.

[48 & 49 Victoriæ, cap. 52.—6th August, 1885.]

An Act to amend the Law relating to Lunatics.

Section 1 gives the short title of the statute as "The Lunacy Acts Amendment Act, 1885." Section 2 provides that where under "The Lunatic Asylums Act, 1853," it is the duty of any relieving officer, overseer, or constable, to lay information before a justice concerning any pauper, or other person wandering at large, or any person not under proper control, who is, or is deemed to be, a lunatic, or any person who is cruelly treated or neglected by a relative or other person having the care or charge of him, then, if the officer considers that it is necessary for the public safety or the welfare of the alleged lunatic that he should be placed under control before information can be given or laid, or before the alleged lunatic can be brought before the justice, he may cause him to be removed to the workhouse of the union in which the lunatic is. When admitted the lunatic is not to be detained for more than three days, and before the expiration of that time the relieving officer, overseer, or constable is to give the notice or lay the information before the justice, or bring him before the justice, as the Lunatic Asylums Act of 1853 requires. By section 3, the justice in any case where under section 67 or 68 of the Act of 1853 an order might be made for the removal of a lunatic to an asylum, hospital, or licensed house, and the justice or justices shall be satisfied that it is expedient for the welfare of the lunatic or for the public safety that he should be forthwith placed under care or control, such justice or justices may make an order for taking the lunatic to and receiving him in the said workhouse, if there is proper accommodation for such lunatic. An order under this section is to be deemed to authorise the detention of the lunatic for a period not exceeding fourteen days from its date; after which such detention shall not be lawful, except under the conditions mentioned in section 20 of "The Lunacy Acts Amendment Act, 1862." In any case where the justice or justices make an order for the removal of the lunatic to an asylum, hospital, or licensed house, an order under this section may also be made to provide for the detention of the lunatic until he can be removed as aforesaid; but such an order is not to be

deemed to authorise the detention of the lunatic in the workhouse for more than fourteen days. An order under this section may be made by any justice or justices of the peace having jurisdiction in the place where the lunatic is. By section 4 this Act is to be construed as one with "The Lunatic Asylums Act, 1853," and the Acts amending that Act, and expressions used in this Act are according to the subject-matter in each case to have the same meaning as in those Acts, save as in this Act is otherwise provided. In this Act "union" includes a parish for which there is a separate board of guardians.

FRIENDLY SOCIETIES.

[48 & 49 Victoriæ, cap. 27.—16th July, 1885.]

An Act to declare the true meaning of Section 22 of "The Friendly Societies Act, 1875."

The preamble recites that doubts have arisen whether section 22 of "The Friendly Societies Act, 1875" (which provides for the decision of questions arising between a member of a registered friendly society and the society or one of the officers), extends to the settlement of disputes between duly registered branches and the societies of which they are a part. Section 1 interprets section 22 of the Act of 1875 as including and applying to every dispute between any registered branch, or an officer of such branch, and the registered society or branch of which the other party to the dispute is a registered branch, or any officer thereof, or between any two or more registered branches of any registered society or branch, or any officers thereof respectively, and provides that it shall so be read and construed. Section 2 provides for the interpretation of this Act as one with "The Friendly Societies Act, 1875," and the amending Acts, 1876 and 1879, with which it may be cited as the Friendly Societies Acts. Its short title is to be "The Friendly Societies Amendment Act, 1885."

BANKRUPTCY (OFFICE ACCOMMODATION).

[48 & 49 Victoriæ, cap. 47.—6th August, 1885.]

An Act to enable the Treasury to provide out of surplus funds arising under the Bankruptcy Act, 1883, Office Accommodation for Officers appointed under the said Act.

By section 1 the short title of the Act is "The Bankruptcy (Office Accommodation) Act, 1885," and is to be read as one with "The Bankruptcy Act, 1883." Section 2 empowers the Treasury from time to time out of any surplus paid over to them out of the bankruptcy estates account, in pursuance of section 76 of "The Bankruptcy Act, 1883," to pay such sums as they consider necessary for defraying the expenses of providing office accommodation for any officer or officers appointed by the Board of Trade under the said Act. If after any sum is so expended the Board of Trade notify to the Treasury that an amount is required to answer the demands in respect of bankrupts' estates, and that the securities and moneys held by the

Treasury on the account mentioned in section 76 are insufficient to pay the amount, the Treasury is authorised to charge on and pay out of the Consolidated Fund, or the growing produce thereof, the sum expended in pursuance of this section, or such part thereof as appears to them to be required.

SECRETARY FOR SCOTLAND.

[48 & 49 Victoriæ, cap. 61.—14th August, 1885.]

An Act for appointing a Secretary for Scotland and Vice-President of the Scotch Education Department.

Section 1 gives the short title of the statute as "The Secretary for Scotland Act, 1885." Section 2 enacts that it shall be lawful for Her Majesty to appoint a Secretary for Scotland, who shall hold office during Her Majesty's pleasure, and that there shall be paid to the Secretary, out of moneys to be provided by Parliament, a salary of 2000*l.* a year. The Secretary is empowered to appoint such permanent secretaries, inspectors, clerks, and other officers as he may, with the Treasury sanction, determine, whose salaries shall be fixed with the consent of the Treasury, and together with such other expenses of the office as the Treasury sanctions, be paid out of moneys provided by Parliament. Section 3 provides that the Secretary, if not a member of the House of Lords, shall, if otherwise qualified, be capable of being elected to and voting in the House of Commons. Section 4 provides for the seal, the style and the recognition of the acts of the Secretary. Section 5 transfers to the Secretary (*a*) all powers vested in one of Her Majesty's Principal Secretaries of State by the Acts specified in the schedule, and all powers and duties vested in or imposed upon such Secretary of State in relation to the Universities of Scotland; (*b*) all powers similarly vested in the Privy Council; (*c*) all powers similarly vested in the Commissioners of the Treasury, and anything required to be done by them or any of them is to be made or done by the Secretary. By section 6 the Queen may appoint the Secretary by warrant under the sign manual to be Vice-President of the Scotch Education Department, which is to consist of the Lords of any Committee of the Privy Council appointed by Her Majesty on Education in Scotland. By section 7 the powers and duties hitherto vested in the Scotch Education Department are to be transferred to and vested in the new Education Department constituted under this Act. Section 8 makes the Secretary the Keeper of the Great Seal of Scotland. Section 9 reserves all rights, powers, privileges, or duties, vested in or imposed on the Lord Advocate by Act of Parliament, or by custom, from being interfered with by this Act.

AMENDMENT OF THE CRIMINAL LAW.

[48 & 49 Victoriæ, cap. 69.—14th August, 1885.]

An Act to make further provision for the Protection of Women and Girls, the Suppression of Brothels, and other purposes.

Section 1 gives the short title as "The Criminal Law Amendment

Act, 1885." Part I contains provisions for the protection of women and girls. Section 2 defines procuration, and makes a person who commits the offence guilty of a misdemeanour, and liable to imprisonment, at the discretion of the court, for a term not exceeding two years with or without hard labour, provided that no person is to be convicted on the evidence of one witness, un ess that witness is corroborated in some material particular by evidence implicating the accused. Section 2 makes it a misdemeanour—subject to similar punishment, and with the same proviso as to the evidence necessary for conviction—to procure the defilement of a woman by threats or frauds, or by administering drugs. Section 4 makes it a felony to defile any girl under thirteen years of age, the punishment on conviction being, at the discretion of the Court, to be kept in penal servitude for life or for any term not less than five years, or to be imprisoned for any term not exceeding two years with or without hard labour. The attempt to commit the same offence is to be a misdemeanour, punishable with a term of imprisonment not exceeding two years with or without hard labour, at the discretion of the court. If the offender's age does not exceed sixteen years, the court may, instead of sentencing him to any term of imprisonment, order him to be whipped, as prescribed by 25 & 26 Vict., c. 18, intituled "An Act to amend the Law as to the Whipping of Juvenile and other Offenders," which is to apply, as far as circumstances admit, as if the offender had been convicted in manner in that Act mentioned; and if, having regard to his age and all the circumstances of the case, it should appear expedient, the court may, in addition to the sentence of whipping, order him to be sent to a certified reformatory school, and to be there detained for a period of not less than two years and not more than five years, and to be kept in custody for not more than seven days before he is sent to the reformatory. This section also provides that in cases heard under it where the girl in respect of whom the offence is charged to have been committed, or any other child of tender years who is tendered as a witness, does not, in the opinion of the Court or justices, understand the nature of an oath, the evidence of such girl or other child of tender years may be received, though not given upon oath, if, in the opinion of the Court or justices, as the case may be, such girl or other child of tender years is possessed of sufficient intelligence to justify the reception of the evidence, and understands the duty of speaking the truth: Provided that no person shall be liable to be convicted of the offence unless the testimony admitted by virtue of this section and given on behalf of the prosecution shall be corroborated by some other material evidence in support thereof implicating the accused; also that any witness whose evidence has been admitted under this section shall be liable to indictment and punishment for perjury in all respects as if he or she had been sworn. Section 5 provides for the punishment of any person who violates a girl between thirteen and sixteen years of age, or who commits a similar act on an idiot or imbecile woman or girl, knowing her to be of weak mind. Section 6 provides for the punishment of a householder who permits such acts as are described in the foregoing sections to be committed on his premises. Section 7 makes the abduction of a girl under eighteen years of age for immoral purposes a misdemeanour, to be punished by imprison-

ment for a period not exceeding two years with or without hard labour; but it is to be a sufficient defence to any charge under this section if it shall be made to appear to the court or jury that the person so charged had reasonable cause to believe that the girl was of or above the age of eighteen years. Section 8 makes it a misdemeanour to unlawfully detain a woman or girl against her will for immoral purposes, and provides that no legal proceedings, whether civil or criminal, shall be taken against any such woman or girl for taking away or being found in possession of any such wearing apparel as was necessary to enable her to leave such premises or brothel. Section 9 gives power to convict offenders charged with rape of the minor offences named in this Act. Section 10 gives power of search for women or girls supposed to be unlawfully detained, but every warrant issued under this section is to be addressed to and executed by some superintendent, inspector, or other officer of police, who shall be accompanied by the parent, relative, or guardian or other person making the information, if such person so desire, unless the justice shall otherwise direct. Section 11 refers to other outrages on decency, and section 12 provides for the safe guardianship of girls whose ruin has been caused, encouraged, or favoured by their father, mother, guardian, master or mistress. Section 13 provides for the suppression of brothels and the punishment of their keepers. Section 14 defines terms. Section 15 applies the Act to Scotland, and the remaining sections contain miscellaneous provisions for the carrying out of the Act in England and Ireland.

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6. PARLIAMENTARY REFORM AND RECONSTRUCTION.

REPRESENTATION OF THE PEOPLE.

[48 Victoriæ, cap. 3.—6th December, 1884.]

An Act to amend the Law relating to the Representation of the People of the United Kingdom.

By section 1 the short title of the Act is "The Representation of the People Act, 1884."

Extension of the Household and Lodger Franchise.

Section 2 declares that a uniform household franchise and a uniform lodger franchise at elections shall be established in all counties and boroughs throughout the United Kingdom, and that every man possessed of a household qualification or a lodger qualification shall, if the qualifying premises be situate in a county in England or Scotland, be entitled to be registered as a voter, and when registered to vote at an election for such county, and if the qualifying premises be situate in a county or borough in Ireland, he is to be entitled to be registered as a voter, and when registered to vote at an election for such county or borough. By section 3 where a man inhabits any

dwelling-house by virtue of any office, service, or employment, and the dwelling-house is not inhabited by any person under whom he serves, he is to be deemed for the purposes of this Act and of the Representation of the Peop'e Acts to be an inhabitant occupier of such dwelling-house as a tenant.

Prohibition of Multiplication of Votes.

Section 4 places restrictions on the use of fagot votes. No man is to be entitled to be registered as a voter in respect of the ownership of any rent-charge, except the owner of the whole of the tithe rent-charge of a rectory, vicarage, chapelry, or benefice, to which an apportionment of tithe rent-charge shall have been made in respect of any portion of tithes. In the case of two joint owners or tenants of property qual fying for a vote, only one of the two is to be registered and to vote.

Assimilation of Occupation Qualification.

Section 5 enacts that every man occupying any land or tenement in a county or borough in the United Kingdom of a clear yearly value of not less than 10*l.* shall be entitled to be registered as a voter, and when registered to vote at an election for such county or borough in respect of such occupation, subject to the like conditions respectively as a man is under, at the passing of this Act, who is entitled to be registered as a voter and to vote at an election for such county in respect of the county occupation franchise, and at an election for such borough in respect of the borough occupation franchise.

Supplemental Provisions.

Section 6 forbids a voter to vote at a county election in respect of the occupation of any dwelling-house, lodgings, land, or tenement, situate in a borough. Section 7 describes at length the household and lodger qualification and other franchises, and the application of the Acts relating to them. Section 8 defines the meaning to be attached to the expressions "Representation of the People Acts" and "Registration Acts" used in this statute, and section 9 defines and applies the rating Acts. Section 10 gives a saving to the effect that nothing in this Act is to deprive any person (who at the date of the passing of this Act is registere l in respect of any qualification to vote for any county or borough) of his right to be from time to time registered and to vote for such county or borough in respect of such qualification in like manner as if this Act had not passed. Provided that where a man is so registered in respect of the county or borough occupation franchise by virtue of a qualification which also qualifies him for the franchise under this Act, he shall be entitled to be registered in respect of such latter franchise only. Nothing in this Act is to confer on any man who is subject to any legal incapacity to be registered as a voter or to vote any right to be registered as a voter or to vote. Sections 11 and 12 refer to the construction of the Act and to the repeal of certain superseded sections of previous Acts, and section 13 fixes the date for the commencement of the Act as 1st January, 1885, but in Scotland the register of voters made in 1885 is not to come into force until 1st January, 1886.

REGISTRATION OF VOTERS.

[48 Victoriæ, cap. 15.—21st May, 1885.]

An Act to assimilate the Law affecting the Registration of Occupation Voters in Counties and Boroughs, and for other purposes.

The preamble recites the desirability of supplementing the assimilation of the county and borough occupation franchises by an assimilation of the registration law applicable to those franchises. Section 1 extends to county voters the borough system of registration, and enacts that the Registration Acts are to apply to counties as they do to boroughs; and section 2 provides for the adaptation of the Acts as regards list of county voters, and for the keeping of separate lists of ownership voters, occupation voters other than lodgers, and lodgers. By section 3 in boroughs and counties notices of claims and objections are to be given on or before the 20th August instead of 25th August. Overseers in counties and boroughs are to publish lists of claims and objections on or before August 25th, which day is to be substituted in the Parliamentary Registration Acts for the 29th August and 1st September, wherever those dates occur, and the first fourteen days after August 25th is to be substituted for the first fourteen days of September. By section 4 revision courts in counties may be held within the same periods as in boroughs, seven days' notice in each case being sufficient. All declarations made under section 10 of "The County Voters Registration Act, 1865," are to be transmitted to the clerk of the peace on or before 12th September, and are to be open for inspection, and copies are to be sold on any day prior to the first on which the court for the revision of votes can be held. Various other provisions are given in section 4 as to the holding of the revision courts and the issue of the revised lists. Section 5 deals with cases of the double entry of voters for boroughs: (*a*) if one of the entries is on the list of freemen that entry shall be retained: (*b*) if neither of the entries is on the list of freemen, and one of the entries is the place of abode of the voter, the entry in respect of the place of abode shall be retained; and (*c*) in any other case the entry in that one of the lists which is first revised by the revising barrister shall be retained. Section 6 makes a saving as to the registration of burgesses and voters in parishes of municipal boroughs. Section 7 gives in detail the duties of clerks of the peace and town clerks under the Act, and section 8 makes arrangements for the remuneration of clerks of the peace for work done under this Act. Section 9 meets the cases where parishes are partly in a county and partly in a borough, by providing that the parts of the parish shall be reckoned separate parishes. Section 10 makes a special provision that any person deemed to be an inhabitant occupier under section 3 of "The Representation of the People Act, 1884," shall be qualified to be registered as if the provisions of that Act had been in force throughout the year 1884, and had been duly carried into effect. Section 11 enacts that a man entitled to be registered as a 50*l.* rental voter shall be registered as an occupation voter and not as an ownership voter, and shall be included in the expression "occupation voter" in this Act, and it shall be the duty of the overseers to insert the name of every

50*l.* rental voter in the list of occupation voters, and to add "objected" before the name of such voter in the portion of the register relating to ownership voters. Section 12 extends to voters in Parliamentary co unties the provision of section 7 of 41 & 42 Vict., c. 26, by which the period of qualification for voters in Parliamentary boroughs was made up to 15th July instead of 31st July. Section 13 deals with the constitution of polling districts. Section 14 provides as to the payment of expenses in divided county jurisdictions. By section 15 section 78 of 2 & 3 Will. 4, c. 45, is repealed, provided that no person is to be prevented by any other Act from being registered as a Parliamentary voter in respect of his occupation of any chambers or premises in any of the colleges or halls of the Universities of Oxford or Cambridge. Section 16 enables any registered Parliamentary voter on payment of fees, as allowed by "The Registration Act, 1878," to obtain from the clerk of the guardians a list giving the names and addresses, as appearing in the books of the guardians and their officers, either of all men of full age, or of all persons who have, during the period specified in the notice, received out of the rates administered by such guardians either parochial relief or outdoor parochial relief, and at the time of receiving such relief were recorded as resident in the said parish or union. Section 17 repeals certain parts of statutes named in the first schedule; section 18 enacts the forms and instructions contained in the second and third schedules; section 19 contains definitions of terms; and section 20 limits the application of the Act to England and Wales, and gives as its short title "The Registration Act, 1885." The schedules contain full instructions to guide clerks of the peace and other officers in carrying out the Act, together with copies of forms, &c.

REDISTRIBUTION OF SEATS.

[48 & 49 Victoriæ, cap. 23.—25th June, 1885.]

An Act for the Redistribution of Seats at Parliamentary Elections and for other purposes.

By section 1 the Act is to be cited as "The Redistribution of Seats Act, 1885." Part I deals with the boroughs which are to be merged in county divisions or in other boroughs (section 2); boroughs disfranchised for corruption (section 3); boroughs to have the number of members reduced (section 4); boroughs to have additional members (section 5); new boroughs (section 6); boroughs to have their boundaries altered; and boroughs to be divided. Section 9 applies to counties. In Part II, sections 10 to 23 contain supplemental provisions; section 24 supplies definitions; section 25 applies the Act to Scotland, and section 26 to Ireland. Part III deals with the disqualification of voters for corrupt practices. Part IV provides for the acceleration of registration in 1885 by the appointment of additional revising barristers. Section 30 fixes the dates for registration in 1885 in England, section 31 in Scotland, and section 32 in Ireland. The Schedules give complete lists of the boroughs to cease as such (1);

boroughs to lose one member (2); boroughs to have additional members (3); new boroughs (4); boroughs with altered boundaries (5); the number, names, contents, and boundaries of divisions (6); the counties with their contents and number of members (7); and list of Acts repealed in whole or in part.

RETURNING OFFICERS' EXPENSES.

[48 & 49 Victoriæ, cap. 62.—14th August, 1885.]

An Act to amend the Law relating to the Charges of Returning Officers at Parliamentary Elections.

The preamble recites the provisions of "The Returning Officers Act, 1875," by which the officer where there is no contest may require one-fifth of the maximum charges allowed, and affirms it to be desirable to reduce this amount. Section 2 provides that 25*l.* shall be substituted for one-fifth as the amount in such cases, and section 3 makes a similar provision for Scotland. Section 4 enacts that notwithstanding the scale of charges laid down in the first schedule of the Act of 1875, it shall be lawful in any county constituency in England for the returning officer to charge four guineas for each presiding officer and 30*s.* for each clerk at a polling station.

MEDICAL RELIEF DISQUALIFICATION REMOVAL.

[48 & 49 Victoriæ, cap. 46.—6th August, 1885.]

An Act to prevent Medical Relief disqualifying a Person from Voting.

Section 1 gives the short title of the Act as "The Medical Relief Disqualification Removal Act, 1885." Section 2 enacts that when a person has in any part of the United Kingdom received for himself, or for any member of his family, any medical or surgical assistance, or any medicine at the expense of any poor rate, he is not by reason thereof to be deprived of any right to be registered or to vote either—(*a*) as a parliamentary voter: (*b*) as a voter at any municipal election; (*c*) as a burgess; or (*d*) as a voter at any election to an office under the provisions of any statute. Nothing in this section is, however, to apply to the election—(*a*) of any guardian of the poor; or (*b*) of any member of any parochial board in Scotland; or (*c*) or any other body acting in the distribution of relief to the poor from the poor rate. Retrospective effect is given to this clause, so that every person is to be qualified to be registered as a voter and to vote, who would be so qualified if the provisions of this Act had come into force on the 15th July, 1884. Section 3 makes provision for the registration of voters in the year 1885, to whom objection had been taken before the passing of this Act. Section 4 defines "medical or surgical assistance" in this Act as including all medical and surgical attendance, and all matters and things supplied by or on the recommendation of the medical officer having authority to give such attendance and recommendation at the expense of the poor rate.

ABSTRACTS OF PARLIAMENTARY AND OTHER OFFICIAL DOCUMENTS.

1. FINANCE, TAXATION, AND CURRENCY.

NATIONAL REVENUE AND EXPENDITURE.—The following tables show the gross PUBLIC REVENUE and EXPENDITURE of the United Kingdom in the year ended 31st March, 1885:—

SOURCES OF REVENUE:—	£
Customs	20,321,000
Excise	26,600,000
Stamps (exclusive of fee, &c., stamps)	11,925,000
Taxes	2,950,000
Property and Income Tax	12,000,000
Post Office	7,905,000
Telegraph Service	1,760,000
Crown Lands (Net)	380,000
Interest on Advances for Local Works, &c., and on Purchase Money of Suez Canal Shares	1,027,350
Miscellaneous (including fee, &c., stamps)	3,119,760
Total Income	£87,988,110
Income for year estimated in Budgets	£86,733,000
Excess of Income over Budget Estimate	£1,255,110

BRANCHES OF EXPENDITURE:—	
Interest and Management, &c., of National Debt:—	
Funded:	£
Permanent	18,976,393
Terminable Annuities	8,999,065
Unfunded	101,390
Management	214,705
New Sinking Fund	508,447
Trustee Savings Banks, Deficiency Annuity	83,673
Total Permanent Charge of Debt	£28,883,673
Interest, &c., on Loans not part of Permanent Charge of Debt	664,566
Total for Funded and Unfunded Debt	£29,548,239
Civil List and Civil Charges of all kinds, exclusive of Post Office Packet Service	£19,041,219
Forces (exclusive of Fortifications, so far as met out of Loans, &c.):—	
Army, including Ordnance and Army Purchase Commission	18,600,338
Navy, including Transport Service	11,427,064
Afghan War, Grant to India	250,000
Relief of General Gordon	300,000
Total for the Forces	£30,577,402
Total Expenditure, exclusive of Cost of Collection	£79,166,890
Charges for the Collection of the Revenue:	
Packet Service	728,625
Telegraph Service	1,731,000
Post Office	4,666,000
Inland Revenue	1,767,852
Customs	977,516
Total Ordinary Expenditure	£89,037,883
Estimated on Budgets and Supplementary Votes	£89,898,222
Less than Estimates by	860,339

CUSTOMS AND EXCISE.—The Produce of the two great sources of PUBLIC REVENUE, CUSTOMS and EXCISE, which together contribute considerably more than One-Half to the NATIONAL INCOME of the UNITED KINGDOM, was as follows in the financial year ending March 31, 1885:—

CUSTOMS DUTIES on Articles usually contributing not less than £1,000 Annually.	Gross Receipts. £	s.	d.
Beer, Mum, and Spruce.	2,736	8	1
—— Of other Sorts . .	6,877	18	1
Chicory	66,341	15	0
Cocoa, Cocoa Husks, and Chocolate . .	67,954	16	8
Coffee	209,951	10	5
Currants	341,462	10	6
Figs	35,401	0	10
Plate, Gold and Silver .	6,445	1	11
Plums, Dried or Preserved, French Plums and Prunelloes . .	4,238	11	2
Prunes	10,276	13	8
Raisins	155,587	9	3
Spirits, Colonial and Foreign:—			
Rum	1,520,970	15	0
Brandy	2,084,255	10	11
Geneva	122,651	8	8
Of other sorts . . .	585,958	17	6
Tea	4,795,842	14	5
Tobacco and Snuff . .	9,376,092	11	1
Wine	1,235,200	3	0
All other Articles . . .	2,178	14	10
Charges on deliveries from the Bonded Warehouses . . .	34,966	2	7
Moneys deposited and not appropriated to goods	3,274	14	4
	£20,668,665	7	11
Duties collected at the Isle of Man . . .	54,652	1	1
Total Customs .	£20,723,317	9	0
Drawbacks, Repayments, &c. . . .	165,498	4	1
Net Produce . .	£20,557,819	4	11

EXCISE DUTIES.	Gross Receipts. £	s.	d.
Beer	8,706,807	14	7
Railways	392,421	10	6
Spirits	14,617,720	11	10
Chicory	2,255	12	7
Coffee Mixture Labels .	4,571	0	9
Licences, viz.:			
Auctioneers, Appraisers, &c.	80,734	0	0
Beer and Cider, and Beer and Wine . .	187,490	2	3½
Brewers	41,211	1	0
Dog	341,890	10	0
Establishment, viz.:			
Armorial Bearings . .	77,485	16	0
Carriages	547,589	15	0
Male Servants . .	139,076	5	0
Game	187,269	7	6
Gold and Silver Plate .	48,307	9	6
Gun	83,752	0	0
Hawkers and Pedlars .	27,394	5	0
Medicine Vendors . .	5,003	0	0
Pawnbrokers . . .	35,340	0	0
Refreshment House .	6,725	2	4½
Spirits:			
Distillers and Rectifiers	4,202	5	0
Dealers	120,027	17	3
Publicans, including Grocers in Scotland and Ireland . . .	1,485,055	12	1
Tobacco	85,621	19	2
Wine and Sweets . .	69,074	5	4½
Other than the foregoing	8,749	0	11
Total Excise . . .	£27,305,776	3	8
Deductions on account of Drawbacks, Discounts, Parliamentary Allowances, Repayments, &c. .	£804,164	4	9
Net Produce . .	£26,501,611	18	10

STAMPS.—The following table gives the gross receipts from Stamps in the United Kingdom during the year ended the 31st of March, 1885:—

Heads of Duty.	Gross Receipts. £	s.	d.
Probate and Account Duty.	4,062,629	18	7
Legacy Duty	2,821,780	16	1
Succession Duty . . .	935,053	14	1
Total Probate and Legacy, &c., Duties	7,819,464	8	9
Deeds and other Instruments, not included under the following heads. . .	1,823,444	10	3
Bills of Exchange . .	705,113	14	9
Receipts, Drafts, and other 1*d.* Stamps .	943,775	2	9
Bankers' Notes. . . .	308	2	6
Composition for the Duties on the Bills and Notes of the Banks of England and Ireland, and of Country Bankers .	127,982	11	2
Cards	14,925	13	0
Gold and Silver Plate, viz.:			
Gold	24,399	17	11
Silver	53,691	19	4½
Licences and Certificates	153,309	0	0
Life Insurances . . .	37,041	1	2

Heads of Duty.	Gross Receipts. £	s.	d.
Marine Insurances . .	146,046	12	5
Medicine	170,335	12	10½
Total Stamps . .	£12,019,839	6	11
Drawbacks, Discounts, and Allowances .	133,654	3	3
Net Produce . .	£11,886,185	3	8
Fee Stamps, viz.:			
Admiralty Court (Ireland) . . .	522	19	6
Bankruptcy Court (Ireland) . . .	3,680	4	6
Chancery Fund (Ireland) . . .	662	2	3
Civil Service Commission	9,025	12	8
Colonial Stock Act. .	30	0	0
Companies Registration	26,202	2	6
County Courts (Ireland)	28,852	19	3
Crown Office in Chancery . . .	3,325	12	2
District Audit . . .	29,344	15	0
Judgments Registry Fund (Ireland) .	3,029	14	6
Judicature (England).	374,262	7	4
,, (Ireland) .	37,786	0	6
Land Commission (England). . .	5,887	13	6
Land Court (Ireland) .	1,970	10	11
Land Registry (England).	836	19	9
Law Courts (Scotland)	5,430	0	0
London Gazette . .	17,891	6	4
Lord Chancellor's Presentation . .	517	0	0
Newspaper Registration	413	17	0
Police Courts (Metropolis) . . .	8,549	4	0
Public Record . . .	878	16	6
Railway Commission .	201	18	6
RegisterHouse (Scotland).	37,463	7	3
Registration of Deeds (Ireland) .	13,007	14	11
Total Fee Stamps . .	£609,772	18	10
Patents for Inventions	84,100	8	0
Total Fee and Patent Stamps	693,873	6	10
Discounts and Repayments	1,515	4	4
Net Receipt . .	£692,358	2	6

NATIONAL DEBT.—The following table shows the total amount of the Funded Debt of the United Kingdom on the 31st of March, 1884, the Debt reduced in the year ended 31st March, 1885, and the amount of Debt as it stood at the latter date:—

	£	s.	d.
Total Funded Debt on 31st March, 1884 .	640,631,095	1	3
Debt created in the year ended 31st March, 1885 . . .	23,878,199	15	5
	664,509,294	16	8
Debt reduced in the year ended 31st March, 1885 . . .	24,327,398	14	2
Balance, being total Funded Debt on 31st March, 1885 . . .	640,181,896	2	6
Decrease in the year ended 31st March, 1885	449,198	18	9

STATE OF THE PUBLIC FUNDED DEBT.—The following table shows the state of the Public Funded Debt of the United Kingdom on 31st March, 1885:—

	Capitals. £	s.	d.
Great Britain.			
Annuities, at 2½ per cent.	32,118,324	4	10
Exchequer Bonds, created per 16 Vict., c. 23, at 2½ per cent.	418,300	0	0
Total, at 2½ per cent .	£32,536,624	4	10
Annuities, at 2¾ per cent.	4,536 818	16	3
Debt due to the Bank of England, at 3 per cent.	11,015,100	0	0
Consolidated Annuities, at 3 per cent.	326,044,298	15	2
Reduced Annuities, at 3 per cent. . . .	77,590,585	19	5
New Annuities, at 3 per cent.	157,592,571	10	8
Total, at 3 per cent. .	£572,242,556	5	3
New Annuities, at 3½ per cent.	225,746	6	4
Total, Great Britain	£609,541,745	12	8
Ireland.			
Annuities, at 2½ per cent.	692,195	9	1
Annuities, at 2¾ per cent.	110,980	6	9
Debt due to the Bank of Ireland, at 3 per cent.	2,630,769	4	8
Consolidated Annuities, at 3 per cent. .	4,248,997	11	2
Reduced Annuities, at 3 per cent. . . .	90,711	5	5
New Annuities, at 3 per cent.	22,866,496	12	9

	£	s.	d.
Total, at 3 per cent. .	£23,836,974	14	0
Total, Ireland . . .	£30,640,150	9	10
Total Capital of the Funded Debt of the United Kingdom, on 31st March, 1885, and Charge thereof	640,181,896	2	6

Charges on National Debt.—The following table shows the annual charges on the Funded Debt of the United Kingdom, in the year ended the 31st of March, 1885:—

	Annual Charge. £	s.	d.
Great Britain:			
At 2½ per cent. . . .	813,415	12	1
At 2½ per cent. . . .	124,762	10	4
At 3 ,, . . .	17,167,276	13	9
At 3½ ,, . . .	7,901	2	3
Total Charge, Great Britain	£18,113,355	18	7
Ireland:			
At 2½ per cent. . . .	17,304	17	8
At 2¾ ,, . . .	3,051	19	2
At 3 ,, . . .	895,109	4	9
Total Charge, Ireland	915,466	1	7
Total Charge, United Kingdom	19,028,822	0	2

	£	s.	d.
Terminable Annuities:			
Annuities, per 18 Vict. c. 18, expiring 5th April, 1885 . .	116,000	0	0
Annuity, per 26 Vict. c. 14, 46 & 47 Vict. c. 54, and 47 Vict., c. 2, expiring 5th October, 1903 (Conversion, 1884, Annuity)	35,121	0	0
Annuity, per 26 Vict. c. 14, expiring 5th April, 1885 (Conversion, 1863, Annuity)	9,983	7	3
Annuities, per 46 & 47 Vict. c. 54, s 2, expiring at various dates in 1888, 1892-3, and 1898 (Cancelled Stock, Savings Banks and Post Office Savings Banks)	3,600,000	0	0
Annuity, per 46 & 47 Vict. c. 54, s. 3, expiring 5th July, 1903 (Cancelled Stock, Court of Chancery)	2,665,835	0	0
Annuities, per 46 & 47 Vict. c. 54, s. 5, expiring February 1903 (Converted Annuities)	684,022	0	0
Annuity, per 43 & 44 Vict. c. 36, expiring 15th May, 1908 "Savings Banks Act, 1880"	83,672	12	0
Red Sea and India Telegraph Company's Annuity, per 25 & 26 Vict. c. 39, expiring 4th August, 1908	36,000	0	0
Annuities for Terms of Years, per 10 Geo. 4, c. 24, and 3 Will. 4, c. 14, expiring at various periods, viz.:			
Granted up to 31st March, 1885 . 1,785,981 4 0			
Deduct, expired up to ditto . . 1,757,776 5 0			
	28,204	19	0
Life Annuities, per 10 Geo. 4, c. 24; 3 Will. 4, c. 14; 16 & 17 Vict. c. 45; 27 & 28 Vict. c. 43, and 45 & 46 Vict. c. 51, viz.:			
Granted up to 31st March, 1885. . 4,628,624 13 8			
Deduct, expired and unclaimed up to ditto 3,578,471 4 0			
	1,050,153	9	8
Exchequer Tontine Annuities, per 29 Geo. 3, c. 41 . . .	2,000	0	0
	27,339,814	8	1
Sinking Fund Annuity on 2½ per Cents., per 33 & 34 Vict. c. 71, s. 69, expiring 5th July, 1894	6,906	14	7
Sinking Fund, per 44 & 45 Vict. c. 55, expiring at various dates, "National Debt Act, 1881".	86,030	1	4
Sinking Fund Annuity, per 47 & 48 Vict. c. 23 s. 3, expiring 1st December, 1934, "National Debt (Conversion of Stock) Act, 1884")	15,547	5	0
	27,448,298	9	0
Management . { Great Britain . . 204,646 19 8 / Ireland . . . 12,591 8 3 }	217,238	7	11
Total charge on 31st March, 1885	£27,665,536	16	11
Charge in year ended 31st March, 1884	28,534,512	17	2
Reduction in charge in year ended 31st March, 1885. . .	86,896	0	3

POOR RATES.—The following table shows the rateable rental assessed to the poor rates for England and Wales, and amount received and expended for relief of the poor from 1870 1884:—

Years ended Lady day.	Rateable Rental Assessed to the Poor Rate.	Total Receipts from Poor Rates and Receipts in aid of Poor Rates.	Expended.
	£	£	£
1870	104,405,304	12,044,012	11,737,613
1871	107,398,242	12,121,440	12,092,741
1871	109,447,111	12,608,938	12,381,278
1873	112,317,603	12,657,943	12,426,566
1874	115,646,631	12,803,762	12,851,007
1875	119,079,589	13,194,446	12,694,208
1876	—	12,905,395	12,636,942
1877	124,587,474	12,948,174	12,998,237
1878	127,648,380	13,489,712	13,615,297
1879	131,021,019	13,871,118	13,693,184
1880	133,769,875	14,001,512	14,092,102
1881	135,645,473	14,340,592	14,390,262
1882	139,656,307	14,918,273	14,864,739
1883	141,407,686	15,238,111	15,057,179
1884	143,222,438	15,352,691	15,356,791

DIRECT LOCAL TAXATION.—The following table shows the amount of the rates levied for the purposes of local expenditure in England and Wales in the year 1882–3, the latest period for which the returns are given in the Statistical Abstract:—

	£
Poor Rates, exclusive of Precept Rates	8,429,015
School Board Rates	1,837,567
Metropolitan Board of Works	706,885
Vestries or District Boards, exclusive of Precept Rates	1,611,681
Corporation and Commissioners of Sewers of the City of London, exclusive of Precept Rates	200,580
Metropolitan Police	618,352
Municipal Borough, exclusive of Precept Rates	1,300,027
Urban Sanitary Authorities	6,117,387
Rural Sanitary	362,175
Lighting and Watching under 3 and 4 Will. 4, c. 90	23,565
County Treasurers	1,385,545
Burial Boards	172,568
Highway Boards	1,810,254
Commissioners of Sewers and Drainage and Embankment Commissioners	274,195
Church Rates	10,999
Baths	8,345
Total	24,869,140
Total 1881–2	27,905,608

COINAGE OF THE ROYAL MINT.—The amount of gold, silver, and copper (bronze) moneys coined at the Royal Mint in each year from 1866 to 1884 was as follows:—

Years.	Gold.	Silver.	Copper.
	£	£	£
1866	5,076,675	493,416	50,624
1867	496,397	193,842	33,301
1868	1,653,384	301,356	16,328
1869	7,372,204	76,428	20,832
1870	2,313,384	336,798	32,704
1871	9,919,656	701,514	7,616
1872	15,261,442	1,243,836	47,413
1873	3,384,568	1,081,674	46,218
1874	1,461,565	890,604	65,632
1875	243,264	594,000	69,813
1876	4,696,648	222,354	61,450
1877	981,468	420,948	51,146
1878	2,265,069	613,998	17,024
1879	35,050	549,054	44,654
1880	4,150,052	761,508	19,269
1881	—	997,128	39,341
1882	—	209,880	42,560
1883	1,403,713	1,274,328	33,450
1884	2,324,015	658,548	69,290

LOCAL TAXATION.—The following table shows the amount of direct and indirect taxation, and of other sources of receipts, for the purposes of local expenditure, in England and Wales, in the years 1881–82 and 1882–83:—

	1881–82.	1882–83.
	£	£
Local taxes:		
Direct, levied by rates	27,905,608	30,018,745
Indirect, levied by tolls, dues, &c.	5,026,846	5,349,320
Total	32,932,454	35,368,065
Other receipts:		
Rents, interest, &c.	814,697	826,894
Sales of property	330,620	427,899
Government contributions	2,865,584	3,323,827
Loans	15,006,238	10,649,567
Miscellaneous	5,526,086	3,188,060
Total	24,543,225	18,416,247
Total receipts	57,475,679	53,784,312

In Scotland the receipts in 1881–82 were 6,314,172*l.*, and in 1882–83 6,198,684*l.*; in Ireland the total receipts were in 1881–82 3,915,228*l.*, and in 1882–83 4,088,925*l.* The totals for the United Kingdom were in 1881–82 67,705,079*l.*, and in 1882–83 64,071,921*l.*

Bank Rate.—The following Table shows the Average Minimum Rate per cent. of Discount charged by the Bank of England in each Month, in each Year from 1871 to 1884:—

Months.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
January	2½	3	4½	3¾	4½	4⅝	2	3½	4½	3	3 5/16	5 1/16	4⅝	3
February	2½	3	3½	3½	3½	4	2	2	3	3	3½	5 1/16	3¾	3 1/16
March	3	3	3½	3½	3½	3 7/8	2	2 1/8	2⅜	3	3	4	3	3 5/16
April	2¾	3⅜	4	3½	3½	2⅜	2	3	2⅜	3	3	3	3	2½
May	2½	4⅜	5¼	4	3½	2	2⅞	3	2	3	2½	3	3 1/16	2½
June	2⅜	3½	6¼	2	3½	2	3	2½	2	2¾	2½	3	4	2⅛
July	2⅛	3¼	4⅜	3	3	2	2¼	3½	2	2½	2½	3	4	2
August	2	3½	3¼	3⅝	2¼	2	2⅛	4⅜	2	2½	2 1/16	3 1/16	4	2
September	2⅛	3⅜	3¼	3	2	2	3	5	2	2½	4	4 1/16	3 1/16	2
October	2⅞	5⅝	6	3½	3½	2	4½	5½	2	2½	3 5/16	5	3	2⅝
November	4½	6¾	8⅛	4½	3½	2	4⅞	5⅝	2⅞	2½	5	5	3	4⅝
December	3¼	5⅜	5¼	6	3	2	4	5	3	2⅞	5	5	3	5
Average for Year	2⅞	4⅛	4⅜	3¾	3¼	2⅝	2⅞	3⅜	2⅜	2¾	3½	4⅛	3 9/16	2 19/20

Price of Stock.—The following Table shows the average price per 100*l.* of the Three per Cent. Consolidated Stock of the Public Funds of the United Kingdom in each Month, in each Year from 1871 to 1884:—

Months.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
January	92⅜	92⅝	92½	92¼	92⅜	93⅜	95¼	95 3/16	95⅝	97¼	98⅝	99 1/16	100½	101⅜
February	91½	92	92⅜	92¼	92 1/16	94 3/16	95 1/16	95 1/16	96¼	98⅛	98 1/16	99⅜	102¼	101⅛
March	92	92⅜	92⅝	92	93	94 3/16	96 7/16	95¾	96⅜	97⅞	99¼	100⅜	102⅛	101 9/16
April	93	92⅜	93⅛	92⅜	93⅛	94 1/16	95⅜	94 13/16	98⅛	98⅜	100 1/16	101⅜	102⅜	102⅛
May	93½	93⅛	93⅛	93¼	94	96	94¼	96 9/16	98¾	99¼	102 5/16	102	101⅞	101½
June	92⅜	92⅜	92¼	92⅝	93	94½	94⅛	95⅝	97⅛	98⅜	100⅜	100⅛	100 1/16	
July	93⅜	92⅛	92⅛	92⅝	94½	95¼	94⅜	95 11/16	97⅜	98 29/32	101⅛	99 13/16	99 13/16	100⅛
August	93⅛	92⅜	92⅜	92⅛	94⅜	96 7/16	95⅛	94 15/16	97¼	97⅛	100¼	99¼	99⅝	100⅜
September	93⅛	92⅜	92⅛	94⅜	95⅜	95¼	94 13/16	97¾	97⅛	99⅜	99⅛	100⅜	101⅛	
October	92⅜	92¼	92⅜	92¾	94 3/16	95 7/16	95¾	94¼	98	98 9/16	98 5/16	101⅜	101¼	100 9/16
November	93¼	92⅜	92⅜	93¼	94⅝	95¾	96 1/16	95 1/16	98¼	99 1/16	100¼	102 1/16	101 1/16	100⅜
December	92¼	91	92	91⅜	93⅞	94	95 5/16	94⅜	97⅜	98¼	99 5/16	100 1/16	100½	99⅓
Average for Year	92⅜	92⅓	92⅓	92⅓	93¾	95	95⅜	95 3/16	97½	98⅜	100	100⅓	101 3/16	101

The following is a Return of the Quarterly Averages of the Weekly Liabilities and Assets of the Bank of England for 1866, 1871, 1876, 1881, 1883, and 1884:—

Years.	Quarter ended	Liabilities.			Assets.		
		Notes in Circulation.	Deposits.	Total.	Securities.	Bullion.	Total.
		£	£	£	£	£	£
1866	March 28	21,436 000	17,783,000	39,219,000	30,058,000	13,570,000	43,628.000
	June 27	24,588,000	22,198,000	46,786,000	37,384.000	13,571,000	50,955,000
	September 26	25,193,000	21,566,000	46,749,000	36.536,000	14,872,000	51,408,000
	December 26	23,728,000	22,740,000	46,468,000	33.110,000	17,478,000	50,588,000
1871	March	24,158,000	27,902,000	52,060.000	33,578,000	21,945,000	55,523,000
	June	24,705,000	28,762,000	53,467,000	32,391,000	24,192,000	56,583,000
	September	25,668,000	29,061,000	54,729,000	32,909,000	25,264,000	58,173,000
	December	25,625,000	28,010,000	53,635,000	33,827,000	22,952,000	56,779,000
1876	March	27,118,000	26,662,000	53,780,000	34,336,000	22,932.000	57,268,000
	June	27,917,000	28,610,000	56,527,000	32,513,000	27,120,000	59,633,000
	September	28,653,000	33,669,000	62,322.000	32,314,000	33,456,000	65,770,000
	December	28,565,000	33,043,000	61,608,000	33,440,000	31,272,000	64,712,000
1881	March	26,100,000	34,017,000	60,117,000	37,204,000	26,400,000	63,604,000
	June	26,859,000	32,757,000	59,616,000	36,343,000	26,366,000	62,709,000
	September	27,135,000	31,514,000	58,649,000	37,478,000	24,676.000	62,154,000
	December	26,237,000	28,633,000	54,870,000	37,096,000	20,876,000	57,972.000
1883	March	25,385,000	30,362,000	55,747,000	37,141,000	22,142,000	59,283,000
	June	25,847,000	30,547,000	56,394,000	38,418,000	21,130,000	59,548,000
	September	26,142,000	29,016,000	55,158,000	35,381,000	23,253,000	58,634,000
	December	25,683,000	29,205,000	54,888,000	35,669,000	22,355,000	58,024,000
1884	March	24,744,751	32,745,694	57,490,445	37,381,698	22,534,204	59,915,902
	June	25,493,494	32,344,344	57,837,838	34,837,450	25,125,254	59,962,704
	September	25,954,761	30,797,424	56,752,185	35,411,106	23,801,465	59,212,571
	December	25,222,999	29,346,720	54,569,719	36,336,691	20,360,721	56,697,412

NATIONAL DEBT FROM 1871 TO 1885.—The following table shows the total amount of the National Debt at the end of each financial year, 1871 to 1885:—

Financial Years ended 31st March	Funded Debt. Capital of Unredeemed Funded Debt, inclusive of Unclaimed Stock and Dividends.	Funded Debt. Estimated Capital of Terminable Annuities (Computed in 3 per Cent. Stock), at Par.	Amount of Unfunded Debt.	Total Amount of National Debt, inclusive of Unclaimed Stock and Dividends.
	£	£	£	£
1871	732,043,270	51,050,196	6,091,000	789,184,466
1872	731,756,962	49,013,769	5,155,100	785,925,831
1873	727,374,082	47,018,928	4,829,100	779,222,110
1874	723,514,005	44,941,333	4,479,600	772,934,938
1875	714,797,715	48,908,742	5,239,300	768,945,757
1876	713,657,517	45,847,366	11,401,800†	770,906,683
1877	712,621,355	43,449,568	13,943,800†	770,014,723
1878	710,843 007	40,705,718	20,603,000†	772,151,725
1879	709,430,593	37,664,369	25,870,100†	772,965,052
1880	710,476,359	33,784,649	‡27,344,900†	771.605,908
1881	709,078,526	34,988,435	22,077,500†	766,144,461
1882	*709,498,547	33,181,875	*18,007,700†	760,688,122
1883	*712,698,994	27,570,876	*14,185,400†	754,455,270
1884	‖640,631,095	‖91,682,269	14,110,600†	746,423,964
1885	640,181,896	86,115,658	14.033,100†	740,330,634

* Under the National Debt Act, 1881, Bonds amounting to 7,750,000*l.* were converted into 8,603.006*l.* Stock.

† Including outstanding Exchequer Bonds issued for raising money for the purchase of Suez Canal shares. In 1885 these amounted to 3,439,300*l.*

‡ Including 1,000,000*l.* borrowed in aid of Ways and Means.

‖ In the course of the financial year 1883–4, 70,241,908*l.*, three per cent. Stock was converted into Terminable Annuities under the provisions of the National Debt Act, 1883.

RATES OF INCOME TAX 1844–1885.

Year.	Rate.	Year.	Rate.	Year.	Rate.
	s. *d.*		*s.* *d.*		*s.* *d.*
1844–5.. ..	0 7	1858–9.. ..	0 5	1872–3.. ..	0 4
1845–6.. ..	0 7	1859–60 ..	0 9	1873–4.. ..	0 3
1846–7.. ..	0 7	1860–1.. ..	0 10	1874–5.. ..	0 2
1847–8.. ..	0 7	1861–2.. ..	0 9	1875–6.. ..	0 2
1848–9.. ..	0 7	1862–3.. ..	0 9	1876–7.. ..	0 3
1849–50 ..	0 7	1863–4.. ..	0 7	1877–8.. ..	0 3
1850–1.. ..	0 7	1864–5.. ..	0 6	1878–9.. ..	0 5
1851–2.. ..	0 7	1865–6.. ..	0 4	1879–80 ..	0 5
1852–3.. ..	0 7	1866–7.. ..	0 4	1880–1.. ..	0 6
1853–4.. ..	0 7	1867–8.. ..	0 5	1881–2.. ..	0 5
1854–5.. ..	1 2	1868–9.. ..	0 6	1882–3.. ..	0 6½
1855–6.. ..	1 4	1869–70 ..	0 5	1883–4.. ..	0 5
1856–7.. ..	1 4	1870–1.. ..	0 4	1884–5.. ..	0 5
1857–8.. ..	0 7	1871–2.. ..	0 6	1885–6.. ..	0 8

Notes.—(*a*). From 1853-4 to 1862-3 a lower rate was charged on incomes from 100*l.* to 150*l.* as follows:—1853-4 at 5*d.*; 1854–5 at 10*d.*; 1855–6 at 11½*d.*; 1856–7 at 11½*d.*; 1857–8 at 5*d.*; 1858–9 at 5*d.*; 1859–60 at 6½*d.*; 1860–61 at 7*d.*; 1861–2 at 6*d.*; and 1862–3 at 6*d.* From 1863 to 1876 incomes under 100*l.* were free of taxation, and there was only one rate for all incomes above that sum, with abatement of 60*l.* on incomes under 200*l.* from 1863 to 1871, and of 80*l.* on incomes under 300*l.* from 1872 to 1875. In 1876 the point of exemption was raised to 150*l.*, and incomes below that amount have since been free of income tax, while for all incomes under 400*l.* no tax is paid upon the first 120*l.*

2. GENERAL COMMERCE AND NAVIGATION.

NAVIGATION RETURNS.—The subjoined table shows the tonnage of British and Foreign vessels (sailing and steam) entered and cleared, *with cargoes*, at ports in the United Kingdom, from and to foreign countries and British Possessions, from 1866 to 1884:—

Years.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1866 ..	9,215,820	4,061,370	13,277,190	9,954,147	4,055,947	14,010,094
1867 ..	9,356,814	3,984,634	13,341,448	10,586,058	4,261,523	14,847,581
1868 ..	9,572,450	4,279,207	13,851,657	10,902,171	4,570,848	15,473,019
1869 ..	10,042,182	4,444,518	14,486,700	11,313,757	4,603,227	15,916,984
1870 ..	10,308,952	4,601,790	14,910,742	11,934,087	4,779 851	16,713,938
1871 ..	11,250,120	5,205,222	16,455,342	13,396,583	5 650,872	19,047,455
1872 ..	12,139,805	5,766,135	17,905,940	13,574,471	5,673,881	19,248 ,352
1873 ..	12,474,912	6,320,145	18,795,057	13,653,030	5,486,335	19,139 ,365
1874 ..	12,751,128	6,330,278	19,081,406	14,010,786	5.742,701	19,753,487
1875 ..	12,852,351	6,187,577	19,039,928	14.454 989	5,958,750	20,413,739
1876 ..	13,672,122	7,354,549	21,026,671	15,201,602	6,309,111	21,510,713
1877 ..	14,894,448	7,237,176	22,131,624	15.358,033	5.837,323	21,195.356
1878 ..	14,513,688	6,804,558	21,318,246	15,783,488	5,798 200	21,581,688
1879 ..	15,039,579	6,059,765	21,099,344	17,095,146	5,754.211	22 849.357
1880 ..	17,018,011	6,975,269	23,993,280	18,867,857	6,817,813	25,685,670
1881 ..	16,864,668	6.360,040	23,224,708	19,605,532	6,731,161	26,336,693
1882 ..	117.810,380	7,004,669	24,815,049	20.392,626	7,306,237	27,698,863
1883 ..	19,186,054	7,124,264	26,310,318	22,135,662	7,237,498	29,373,160
1884 ..	18,209,236	6,487,449	24,696,685	21.946,670	7,326,992	29,273,662

IMPORTS INTO THE UNITED KINGDOM.—The following table gives the quantities of the chief articles imported into the United Kingdom in the year ended the 31st of December, 1884:—

Articles.		Quantity.
Animals:—		
Oxen, Bulls, Cows, and Calves	No.	425,507
Sheep and Lambs	,,	945,042
Bacon and Hams	Cwts.	3,418,431
Beef	,,	1,090,739
Bones, except Whalebone	Tons	82,291
Brimstone	Cwts.	747,398
Bristles	Lbs.	2,946,492
Butter and Butterine	Cwts.	2,475,436
Candles of all sorts	,,	90,979
Caoutchouc	,,	198,844
Cheese	,,	1,927,139
China, Porcelain, and Earthenware	,,	143,556
Clocks	No.	607,230
Cocoa	Lbs.	22,713,774
Coffee	Cwts.	1,137,655
Confectionery and Succades	,,	327,586
Corn, Wheat	,,	47,306,156
—— Barley	,,	12,953,015
—— Oats	,,	12,921,866
—— Maize	,,	24,780,464
—— Other kinds	,,	5,744,978
—— Flour of Wheat	,,	15,095,301
—— —— Of other kinds.	,,	798,276
Total of Corn	,,	119,600,056
Cotton, Raw	,,	15,617,582

Articles.		Quantity.
Drugs:—		
Bark, Peruvian	Cwts.	105,791
Opium	Lbs.	490,675
Dyeing or Tanning Stuffs:—		
Cochineal, Granilla, and Dust	,,	14,766
Cutch and Gambier	Tons	32 219
Indigo	Cwts.	104,423
Garancine, Madder, Madder Root and Munjeet	,,	23,208
Shumach	Tons	11,704
Valonia	,,	34,447
Unenumerated, entered by quantity	Cwts.	1,109,182
Dye Woods	Tons	91,555
Eggs	No.	993,608,760
Feathers, Ornamental	Lbs.	869.106
Fish	Cwts.	1,336,422
Flax and Hemp:—		
Flax, Dressed and Undressed	,,	1,339,811
Tow or Codilla of Flax and Hemp	,,	353,985
Hemp and other like Substances (except Jute), Dressed and Undressed	,,	1,347,253
Jute	,,	5,081,358
Fruits:—		
Currants	,,	1,202,844
Raisins	,,	511,870
Oranges and Lemons	Bush.	4,944,535
Raw, exclusive of nuts	,,	5,061,760
Glass of all Kinds	Cwts.	1,444.523
Guano	Tons	48,347

Articles.		Quantity.
Gum of all Sorts	Cwts.	330,618
Gutta-percha	,,	62,713
Hair:—		
Goats' Hair or Wool	Lbs.	16,906,026
Hides, Raw, Dry, and Wet	Cwts.	1,217,747
Hops	,,	256,777
Lard	,,	699,827
Leather	Lbs.	76,875,971
Leather Gloves	Pairs	17,947,188
Meat, Salted or Fresh	Cwts.	521,666
—— Preserved, other than Salted	,,	450,990
Metals:—		
Copper Ore and Regulus	Tons	186,679
Copper, Unwrought and part Wrought, and old Copper	Cwts.	844,700
Iron Ore	Tons	2,730,829
Iron, in Bars	,,	115,486
Iron and Steel, Wrought or Manufactured	Cwts.	3,702,440
Lead, Pig and Sheet	Tons	109,016
Tin, in Blocks, Ingots, Bars, or Slabs	Cwts.	521,491
Zinc, Crude, in Cakes	Tons	47,658
—— Manufactures	Cwts.	401,603
Nuts and Kernels, used for expressing Oil therefrom	Tons	69,331
Oil, Fish	Tuns	17,489
—— Palm	Cwts.	841,012
—— Cocoa Nut	,,	244,399
—— Olive	Tuns	17,213
—— Seed	,,	12,528
—— Turpentine	Cwts.	462,639
Oil Seed Cake	Tons	269,840
Onions Raw	Bushs.	3,037,406
Paper, for Printing or Writing	Cwts.	208,410
Paper, other (except Hangings)	,,	1,238,925
Petroleum, Unrefined	Galls.	52,975,789
—— Refined		
Pork	Cwts.	337,525
Potatoes	,,	2,444,160
Pyrites of Iron or Copper	Tons	563,073
Rags and Paper-making Materials:—		
Rags	,,	36,233
Esparto and other Materials	,,	260,544
Rice, not in the Husk	Cwts.	6,579,458
—— in the Husk	Qrs.	—
Rosin	Cwts.	1,475,955
Saltpetre	,,	333,708
—— Cubic Nitre	,,	2,030,948
Seeds:—		
Clover and Grass	,,	290,259
Cotton	Tons	212,928
Flax or Linseed	Qrs.	1,795,883
Rape	,,	755,395
Silk Knubs or Husks and Waste	Cwts.	67,239
Silk, Raw	Lbs.	4,522,702
—— Thrown	,,	323,947
Skins and Furs:—		
Goat, Undressed	No.	4,570,325
Seal	,,	713,632
Sheep and Lamb, Undressed	,,	8,001,312
Furs of all sorts	,,	26,616,364
Spices:—		
Cinnamon	Lbs.	1,967,744
Pepper	,,	27,876,761
Of all other sorts	,,	21,636,526
Spirits:—		
Rum	Pf. Gals.	7,376,472
Brandy	,,	2,378,976
Other Foreign and Colonial Spirits	,,	2,116,716
Total of Spirits	,,	11,872,164
Sugar, Refined and Sugar Candy	Cwts.	4,263 873
——— Raw	,,	19,622,679
——— Molasses	,,	412,094
Tallow and Stearine	,,	1,114,888
Tea	Lbs.	213,877.759
Teeth, Elephants', Sea-Cow, and Sea Horse	Cwts.	10,100
Tobacco, Manufactured, Cigars, and Snuff	Lbs.	3,165.336
——— Unmanufactured	,,	53,530,407
Wine	Gals.	15,106,271
Wood and Timber:—		
Hewn	Loads	1,953 930
Sawn or Split	,,	4,049,464
Staves	,,	134,948
Mahogany	Tons	62,836
Wool,—Sheep, Lamb, Alpaca, and the Llama Tribe	Lbs.	526,526,661
Woollen Rags	Tons	31,022
Woollen and Worsted Yarn:—		
Berlin Wool and Yarn used for Fancy Purposes	Lbs.	1,094,620
Yarn for Weaving	,,	13,311,685
Yeast, Dried	Cwts.	282,516

EXPORTS OF HOME PRODUCE FROM THE UNITED KINGDOM.—The following table shows the quantities of the chief articles of British and Irish produce and manufactures exported from the United Kingdom in the year ended the 31st of December, 1884:—

Principal Articles.		Quantity.
Alkali	Cwts.	6 562,400
Animals: Horses	No.	6,973
Arms and Ammunition:—		
Firearms (Small)	No.	304,425
Gunpowder	Lbs.	15,984,700
Bags, Empty	Dozs.	4,126,142

Principal Articles.		Quantity.
Beer and Ale	Brls.	437,241
Biscuits and Bread	Cwts.	192,580
Bleaching Materials	,,	1,610,600
Books, Printed	,,	124,114
Butter	,,	28,895
Candles, of all sorts	Lbs.	7,703,400
Carriages, Railway	No.	—
Cement	Cwts.	7,741,300
Cheese	,,	14,417
Coals, Cinders, and Fuel	Tons	23,350,230
Cordage and Twine	Cwts.	182,958
Corn: Wheat	,,	45,955
—— Wheat Flour	,,	117,185
Cotton Yarn	Lbs.	270,904,600
Cotton Manufactures:—		
Piece Goods White or Plain	Yds.	3,095,353,700
—— Printed, Checked or Dyed	,,	1,321,645,500
—— of Mixed Materials	,,	280,800
Total of Piece Goods	,,	4,417,280,000
Stockings	Doz. Prs.	1,821,575
Thread for Sewing	Lbs.	14,711,900
Fish: Herrings	Brls.	1,332,570
Glass: Plate	Sq. Ft.	3,762,183
—— Flint	Cwts.	128,486
—— Common Bottles	,,	759,063
—— Of other Sorts	,,	141,189
Hats of all Sorts	Dozs.	1,074,794
Leather, Tanned, Unwrought	Cwts.	177,484
—— Wrought, Boots and Shoes	Doz. Prs.	526,544
—— of other Sorts	Lbs.	—
Linen and Jute Yarn:		
Linen Yarn	,,	19,533,700
Jute Yarn	,,	27,266,200
Linen and Jute Manufactures:—		
Linen Manufactures:		
White or Plain	Yds.	143,672,800
Printed, Checked, or Dyed	,,	6,983,200
Sailcloth and Sails	,,	4,661,000
Total of Piece Goods	,,	155,317,000
Thread for Sewing	Lbs.	2,580,500
Jute Manufactures	Yds.	242,846,700
Metals:—		
Iron, Old, for remanufacture	Tons	68,141
—— Pig, and Puddled	,,	1,269,576
—— Bar, Angle, Bolt, and Rod	,,	296,489
—— Railroad, of all Sorts	,,	728,540
—— Wire	,,	52,968
—— Hoops, Sheets, and Boiler Plates	,,	348,298
Iron, Tinned Plates	Tons	288,614
—— Cast, wrought, and all other manufactures	,,	376,367
—— Steel, unwrought	,,	56,934
—— Manufactures of Steel, or of Steel and Iron combined	,,	11,064
Total of Iron and Steel	,,	3,496,991
Copper, Unwrought:—		
Ingots, Cakes or Slabs	Cwts.	358,478
Copper, Wrought, or partly Wrought:—		
Mixed or Yellow Metal	,,	386,629
Of other Sorts	,,	413,711
Brass of all Sorts	,,	106,839
Lead, Pig, Sheet, and Pipe	Tons	33,551
Tin, Unwrought	Cwts.	109,817
Zinc, Wrought and Unwrought	,,	147,667
Oil and Floor Cloth	Sq. Yds.	11,233,000
Oil, Seed	Gals.	16,053,100
Paper (other than Hangings)	Cwts.	670,760
Pictures	No.	10,563
Rags and other Materials for paper	Tons	60,924
Salt	,,	947,410
Silk Manufactures:—		
Broad Piece Goods	Yds.	6,809,560
Skins and Furs:—		
Foreign, British, Dressed	No.	6,581,643
Soap	Cwts.	476,438
Spirits	Gals.	2,635,835
Sugar, Refined	Cwts.	1,294,311
Wool, Sheep and Lambs'	Lbs.	18,128,800
Woollen and Worsted Yarn	,,	39,272,100
Woollen and Worsted Manufactures:—		
Cloths, Coatings, &c., Unmixed and Mixed	Yds.	45,959,100
Flannels, Blankets, Blanketing, and Baizes	,,	15,653,600
Stuffs, Unmixed and Mixed	,,	217,121,200
Carpets and Druggets	,,	11,540,800

BRITISH AND IRISH PRODUCE EXPORTED.—The following table shows the value of exports of British and Irish produce from the United Kingdom to foreign countries and British possessions in 1884:—

FOREIGN COUNTRIES.

Countries.	Value. £
Russia, Northern Ports	4,129,555
——— Southern Ports	864,063
Sweden and Norway	3,857,400
Denmark and Iceland	2,197,912
——— Danish West Indies	156 123
Germany	18,729,269
Holland	16,237,946
——— Java, and other Possessions in the Indian Seas	2,291,756
Belgium	8,500,703
France	16,746,358
——— Algeria	379,686
——— Possessions in Senegambia	209,033
——— Possessions in India	7,547
Portugal	1,969,112
——— Azores and Madeira	317,023
Spain	3,868,533
Spain, Canary Islands	167,839
——— Fernando Po	10,034
——— West India Islands	1,366,014
——— Philippine Islands	969,355
Italy	6,994,114
Austrian Territories	942.831
Greece	1,188,704
Roumania	948,523
Turkey	6,393,568
Egypt	2,893,411
Morocco	292,003
United States	24,426,636
Mexico	1,017,866
Central America	894,399
Haiti and San Domingo	510,860
New Granada (United States of Columbia)	1,160,305
Venezuela	600,200
Ecuador	385,960
Brazil	6,471,564
Uruguay	1,582,963
Argentine Republic	5,810,711
Chili	2,089,640
Peru	1,080,854
China (exclusive of Hong Kong)	4,153,202
Japan	2,255,451
Western Coast of Africa	1,789,860
Other Countries	1,290,419
Total to Foreign Countries	£152,149,296

BRITISH POSSESSIONS.

Countries.	Value. £
Channel Islands	614.894
Gibraltar	698,757
Malta	1,007,747
North American Colonies:—	
British Columbia	
Hudson's Bay Companies Settlement	
Canada	
New Brunswick	8,104,635
Nova Scotia	
Prince Edward Island	
Newfoundland	547,951
Total to North America Colonies	£8.652,586
West India Islands and Guiana	3,057,629
British Honduras	106,368
Australia:—	
West Australia	254,925
South Australia	2,156,997
Victoria	6,657,504
New South Wales	8,403.530
Queensland	2,075,605
Tasmania	523 232
New Zealand	3,698,115
Fiji Islands	125,950
Total to Australia	£23,896,858
British India	30,584,395
The Straits Settlements	2,632,872
Ceylon	737,548
Hong Kong	3,218,946
Mauritius	388,338
Cape of Good Hope and Natal	4,102,281
Possessions on the River Gambia	—
Sierra Leone	366,161
Possessions on the Gold Coast	557,850
Other Possessions	253,716
Total to British Possessions	80,875.946
Total to Foreign Countries and British Possessions	£233,025,242

FOREIGN AND COLONIAL MERCHANDISE EXPORTED.—The following table shows the computed value of the foreign and colonial produce exported from the United Kingdom to foreign countries, and British possessions in 1884:—

FOREIGN COUNTRIES.

Countries.	Value. £
Russia, Northern Ports	2,305,694
——— Southern Ports	289,244
Sweden and Norway	1,447,029
Denmark Proper, and Iceland	402,679
——— Danish West Indies	6,573
Germany	12,059,854
Holland	7,992,093
——— Java and other Possessions in the Indian Seas	38,518
Belgium	6,279,819
France	9,593,085
——— Algeria	11,686
——— Possessions in Senegambia	4,654
——— Possessions in India	151
Portugal	418,054
——— Azores and Madeira	20,846
Spain and the Balearic Islands	882,213
——— Canary Islands	15,149
——— Fernando Po	3,689
——— West India Islands	783,609
——— Philippine Islands	33,365
Italy	1,068,851
Austrian Territories	465,800

Countries.	Value. £
Greece	155,962
Roumania	72,301
Turkey	687,632
Egypt	189,939
Morocco	80,305
United States	8,311,897
Mexico	65,287
Central America	30,513
Haiti and St. Domingo	8,999
New Canada (United States of Colombia	61,224
Venezuela	5,536
Ecuador	7,755
Brazil	317,679
Uruguay	43,365
Argentine Confederation	127,748
Chile	122,536
Peru	166,283
China (exclusive of Hong Kong)	252,296
Japan	349,039
Western Coast of Africa (exclusive of French and Spanish Possessions separately stated)	211,000
Other Countries	124,652
Total to Foreign Countries	£55,514,653
British Possessions.	
Channel Islands	189,444
Gibraltar	97,615
Malta	138,535
North American Colonies	1,034,151
West India Islands and Guiana	337,107
British Honduras	18,059
Australia	2,908,882
British India	1,477,714
The Straits Settlements	183,426
Ceylon	44,505
Hong Kong	368,541
Mauritius	39,754
Cape of Good Hope and Natal	430,668
West African Settlements	39,684
Possessions on the Gold Coast	37,002
Other Possessions	82,601
Total to British Possessions	£7,427,688
Total to Foreign Countries and British Possessions	£62,942,341

TONNAGE OF SAILING AND STEAM VESSELS OF EACH NATION ENTERED AND CLEARED WITH CARGOES AND IN BALLAST, AT PORTS IN THE UNITED KINGDOM FROM AND TO FOREIGN COUNTRIES AND BRITISH POSSESSIONS.

Nationality.	Entered.			Cleared.		
	1870.	1880.	1884.	1870.	1880.	1884.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
British	12,380,390	20,490,512	23,037,215	12,691,790	20,858,472	23,634,486
Russian	315,181	299,634	241,435	304,074	308 268	250,477
Swedish	337,920	754,901	650,134	346,809	753,920	684,401
Norwegian	1,388,435	2,030,353	1,922,228	1,385,913	2,021,415	1,995,024
Danish	347,717	664,756	769,676	405,353	719,943	824,953
German	890,999	1,548,970	1,826,892	872,434	1,624,865	1,857,157
Dutch	267,242	556,281	674,138	264,595	614,182	659,081
Belgian	159,317	265,039	255,652	159,635	268,518	265,043
French	547,951	868,621	968,528	558,000	874,421	1,003 871
Spanish	148,649	310,549	464,571	163,797	325,447	480,806
Portuguese	30,735	16,303	18,989	30,239	16,707	21,233
Italian	451,173	563,474	414,746	483,870	561,796	429,851
Austrian	194,246	168,455	104,682	194,692	160,837	113,111
Greek	17,639	31,955	86,917	21,160	33,238	92,636
United States of America	628 781	496,403	222,988	637,121	509,985	214,659
Other countries	6,989	7,349	29,730	7,336	10,494	57,212
Total	18,113,364	29,073,555	31,688,521	18,526,818	29,662,508	32,584,001

3. TRADE AND AGRICULTURE.

THE CUSTOMS REVENUE OF 1884–5.—The Commissioners of Customs in their 29th Annual Report, state that the gross receipts of Customs Revenue in the year ended 31st March, 1885, amounted to 20,723,317*l.*, showing an increase of 908,759*l.* on the previous year. The normal increase—the rates of duty not having changed—would have been 198,146*l.*, but the increase actually amounted to 710,613*l.* in excess of that sum. This increase, the Commissioners state, is due mainly to the fact that duty has been paid on goods intended for consumption during the current year, in consequence of the general expectation that the rates of duty would be raised on certain articles, especially on tea and tobacco, and therefore the probability is that the revenue of the past year will not be maintained. As regards the several articles from the duties on which the revenue is derived, there has been an increase in the receipts in the past year from cocoa, coffee, tea, currants, spirits, and tobacco; and a decrease in the yield from raisins and wine.

COCOA, TEA, AND COFFEE.—The Commissioners of Customs report an increase in the amount paid for duty on all these articles. The gross yield of the duty on coffee in the year ended 31st March, 1885, viz., 209,952*l.*, was higher than that of any year since 1878–79. The Tea Duty realised the sum of 4,795,843*l.*, representing a clearance from bond of 191,833,720 lbs., and showing an increase on the receipt of the previous year of 527,503*l.*, or at a rate exceeding 12 per cent.

FOREIGN SPIRITS.—The revenue from foreign spirits for 1884–85 showed an increase of 99,522*l.* on that of 1883–84, but a decrease of 53,913*l.* when compared with that of 1882–83. The revenue from rum diminished by 43,466*l.*, and the increase on brandy amounted to 39,986*l.* During the last ten years there has been a noticeable progressive decrease in the revenue from spirits, home and foreign combined, as appears from the following table:—

Year.	Gross revenue.	Rate of increase or decrease per cent.
	£	
1875–76	21,770,271	+3·45
1876–77	21,118,948	−2·99
1877–78	21,102,611	−0·07
1878–79	20,191,066	−4·31
1879–80	18,804,032	−6·86
1880–81	19,347,576	+2·89
1881–82	19,060,228	−1·48
1882–83	19,230,824	+0·89
1883–84	19,102,862	−0·66
1884–85	18,931,558	−0·90

TOBACCO AND SEGARS.—The revenue from the tobacco duties continues to rise, and the increase in the yield amounted to 287,616*l.* in the year ending 31st March, 1885. The increase from unmanufactured tobacco amounted to 255,255*l.*, and from the manufactured article, other than segars, to 6,638*l.*, whilst as regards the receipts from segars there was an increase of 25,723*l.* The progress of the yield of these duties in recent years, since the existing rates of duty were fixed, will be seen from the figures given below:—

1879–80	·47	per cent. increase.
1880–81	1·24	,, ,,
1881–82	2·21	,, ,,
1882–83	·55	,, ,,
1883–84	1·20	,, ,,
1884–85	3·16	,, ,,

the total increase, 8·83 per cent., being clearly in excess of the increase of population.

WINE.—The tendency of the wine duties to decrease in their yield, which has been continued without alteration since 1876–77, did not vary in the past year, in which there was a decrease of 33,989*l.* The gross revenue derived from wine at quinquennial periods for the last 20 years is shown below:—

	£
1864–65	1,319,405
1869–70	1,478,862
1874–75	1,721,565
1879–80	1,394,062
1884–85	1,235,200

LAND UNDER CULTIVATION IN GREAT BRITAIN.—The following appear to be the general results of the returns which have been obtained for Great Britain by the Agricultural Department of the Privy Council:—The area reported in 1885 to be under all kinds of crops, bare fallow, and grass, exclusive of heath and mountain land, and of woods and plantations, amounts to 32,544,000 acres, as compared with 32,465,000 acres in the previous year, showing an increase of about 79,000 acres. The respective additions in each division are nearly 36,000 acres for England, under 9,000 acres for Wales, and about 34,000 acres for Scotland. Some small portion of the increase is doubtless due to the more accurate returns made by farmers, but the reports of the collectors state that the greater part is caused by the enclosure and reclamation of moor or heath and waste lands in different parts of the country.

ACREAGE UNDER CORN CROPS.—The total quantity of land returned under wheat in the present year is 2,478,000 acres, or 198,000 acres (equal to 7·4 per cent.) less than in 1884, and a decrease of 134,800 acres or (5·2 per cent.) as compared with 1883, when the breadth was less than had

previously been recorded. The diminution of the area under wheat in 1885 is almost unaminously stated by the collectors to have been caused by the low prices obtainable for this grain in the autumn and winter of 1884, as the seed time was generally of a highly favourable character in most l calities. The area under *barley* in 1885 was 2,257,000 acres. This is an increase of about 88,000 acres, or 4·1 per cent. as compared with 1884; but it is to be observed that the present year's acreage is 34,000 acres, or 1·5 per cent. less than the acreage of 1883, and there are fewer acres by 165,000 than the average of the previous 10 years. *Oats* were sown on 2,940,000 acres, only 25,000 acres, or 0·9 per cent. in excess of 1884. With the exception of the year 1883, however, it is a larger breadth than has been returned under this crop in any other year since these statistics have been collected. The substitution of barley, and to a smaller extent of oats for wheat, is frequently ascribed to the more remunerative prices obtainable for both these cereals. The acreage under *rye* shows an increase compared with 1884 of 3,800 acres, entirely in England. It is an unimportant crop, however, in this country. *Beans* have decreased by 12,000 acres, while *peas* correspond closely with the area so occupied last year. It is to be feared though that, owing to the dry season, the crop this year will have been picked from a smaller acreage. Altogether the total area under corn crops in 1885 is thus brought up to 8,392,000 acres, or 92,700 acres short of that in 1884, a decrease of 1·1 per cent., the average area of the preceding 10 years having been 8,967,000 acres, or 575,000 more.

BARE FALLOW LAND IN GREAT BRITAIN.—In this there has been a further decrease, the diminution being from 749,000 to 560,000 acres, a smaller area than in any year since 1875, when there were only 558,000 acres in fallow.

ROTATION GRASSES.—There is a considerable increase under this head, the extent being 4,654,000 acres, or 272,000 more than in 1884.

HOPS.—Notwithstanding the largely increased imports in 1884 as compared with the previous year, hops were planted on 71,000 acres, an increase of 2,000 acres, or 3·0 per cent. over 1884, and within 500 acres of the area so occupied in 1878, when the largest acreage on record was returned.

GREEN CROPS.—In 1885 *potatoes* were planted on 548,000 acres, a decrease of 16,000 acres, or 2·9 per cent. as compared with 1884. Some of the reports attribute the lessened area planted to the reasons given for the deficient acreage of wheat, namely, the unremunerative prices caused by the large crops of last year. The variation, however, is only in ordinary course, as the acreage of 1885 has been but seldom exceeded. *Turnips and swedes* have declined; they were this year returned as grown on 2,015,000 against 2,027,000 acres in 1884. *Mangold* has increased by 27.000 acres, and *vetches*, *lucerne*, and other green crops unenumerated have increased by 35,000 acres. The total area of green crops thus amounts to 3,521,000 acres, an increase of nearly 34,000 over the figures of the preceding year.

PERMANENT PASTURE.—Permanent pasture in Great Britain appears to have increased by only 51,000 acres over 1884, a smaller addition than has been returned in any year since 1870. The total extent is now shown to be 15,342,000 acres. Part of the addition is attributed as in preceding years to the inclosure of waste lands before referred to, but chiefly to the causes mentioned in regard to the increase in live stock.

ARABLE.—The return for 1885 shows 17,202,000 acres against 17,175,000 in 1884.

ORCHARDS.—The acreage in the area of orchards in Great Britain is now 197,539 acres, an increase of 2,800 acres on the previous year.

MARKET GARDENS.—The acreage for 1885 in Great Britain is 59,473 acres, as compared with 52,975 acres in 1884.

LIVE STOCK.—*Sheep and lambs* show a proportionately smaller addition, but in pigs there is a considerable decrease. There is also a further decline of 14,000 in *agricultural horses*. The imports of foreign horses in 1884 increased in number over those of 1883, but there is a great difference between the value per head of horses imported and those exported, the former averaging in 1884 19*l.* 17*s.* 2*d.*, while those last mentioned averaged 58*l.* 7*s.* 1*d.* each. In *horned cattle* the numbers exhibit an important increase in each of the several classes, the total number being now 6,597,964, or 328,823 (equal to 5·2 per cent.) more than in 1884, and 635,185 (or 10·7 per cent.) more than in 1883, the figures of the present year being the largest yet recorded for cattle in these returns. *Cows and heifers* in milk or in calf have increased in Great Britain by 139,334 or 5·8 per cent. Other cattle of two years of age and above number 1,465,503 or 5·7 per cent. more, and young

cattle have increased by 110,317 or 4·4 per cent. The increase in *milking cows* appears from the reports to be due to more general recognition of the value of dairy farming, that it is, at any rate, a fairly profitable branch of agriculture, especially where the proximity of large centres of population or of railways provide available markets for the disposal of the produce. *Sheep and lambs* taken together show this year an increase of 466,000 over the numbers in 1884, distributed in an addition to sheep of one year and above of 152,700 and of 313,500 to sheep under one year, the total number being now 26,534,000.

Poultry.—The number of poultry in Great Britain as returned in 1885, exclusive of those kept in towns or by cottagers with less than a quarter of an acre of land, is 15,963,000 as compared with 16,061,000 in 1884, a decrease of 98,000 on the total of the several kinds of poultry included in the returns.

Irish Agriculture.—There is a decrease in the cultivated area. The diminution extends to corn crops, green crops, and permanent pasture, while flax and rotation grasses each show a relatively large increase. As regards corn crops, wheat was sown in 70,800 acres, a slight increase over the breadth of last year, when 69,000 acres were under this crop. Barley is likewise greater by 12,000 acres, but there is a decline in oats of 19,000 acres, as they covered only 1,328,000 acres compared with 1,347,000 in the preceding year, making altogether with the minor corn crops a total area of 1,594,000 against 1,599,000 in 1884. Among green crops the potato acreage is practically unchanged. 797,000 acres having been so planted. Turnips were less, however, by 7,000 acres, occupying 297,000 acres against 304,000 in 1884.

Silos.—The interest taken in the subject of silos and ensilage has induced the department to obtain further information in regard to them, and from a table relating to the number of silos constructed in Great Britain for the ensilage of fodder as returned to June, 1885, it appears that the number has greatly increased, there being now 1,183 in Great Britain as compared with 610 in 1884, while their total capacity has increased by 1,451,362 cubic feet, and others are said to be in course of construction.

Agriculture of the United Kingdom, 1884-85.—The following table gives a comparison of the figures for the United Kingdom, including the Isle of Man and the Channel Islands, between the years 1884 and 1885 —

Acreage.	1885.	1884.
	Acres.	Acres.
Total cultivated area.	47,895,770	47,840,977
Total of permanent pasture.	25,616,071	25,667,206
Total of arable land.	22,279,699	22,173,771
Corn crops ..	10,014 625	10,113,264
Green crops ..	4,765,195	4,733,860
Clover, &c. under rotation.	6,738,206	6,392,402
Flax	110,639	91,444
Hops	71,327	69,259
Bare fallow ..	579,707	773,542
Live Stock.	**No.**	**No.**
Horses	1,909,200	1,904,515
Cattle	10,868,760	10,422,762
Sheep	30,086,200	29,376,787
Pigs	3.686,628	3,906,205
Turkeys	1 288,174	1,210,343
Geese	3,029,137	2,783,237
Ducks	5,080,325	5.006,711
Fowls	20,542,564	19,943,958

Average Gazette Prices of British Wheat per Imperial Quarter in each Month in 1867, 1870, 1873, 1876, 1881, 1883, and 1884.

Months.	1867.	1870.	1873.	1876.	1881.	1883.	1884.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
January ..	61 4	43 8	55 9	44 9	42 5	40 2	38 7
February ..	60 10	41 3	56 4	43 1	41 9	40 11	37 3
March ..	59 9	41 5	55 6	43 0	42 7	42 3	37 4
April	61 6	42 7	54 10	44 11	44 6	41 11	37 5
May	64 8	44 6	56 0	45 1	44 5	43 2	37 9
June	65 4	47 5	58 7	47 5	44 6	42 10	37 2
July	65 0	50 10	59 6	48 3	46 5	42 2	37 0
August ..	67 8	53 10	60 6	46 0	48 6	43 6	36 11
September ..	62 8	47 3	64 2	46 8	52 3	41 10	33 9
October ..	66 6	47 0	60 10	46 6	47 1	40 5	32 3
November ..	69 5	50 1	60 9	47 11	45 11	40 3	31 5
December ..	67 4	52 4	61 8	49 9	44 7	39 6	31 1
The Year ..	64 5	46 10	58 8	46 2	45 4	41 7	35 8

4. POPULATION, PUBLIC EMPLOYMENT, AND VITAL STATISTICS.

Population of the United Kingdom in 1884 and 1885.—The estimated population of the United Kingdom in the middle of 1884 and 1885, exclusive of the Army, Navy, and Merchant Seamen abroad, was as follows:—

	1884.	1885.
England and Wales ..	27,132,449	27,499,041
Scotland ..	3,866,521	3,907,736
Ireland ..	4,952,895	4,918,338
Totals ..	35,951,865	36,325,115

Estimated growth of population .. 363,575

Births, Marriages, and Deaths.—The following table shows the total number of births, deaths, and marriages from 1870 to 1884:—

England and Wales.

Years.	Births.	Deaths.	Marriages.
1870	792,787	515,329	181,655
1871	797,428	514,879	190,112
1872	825,907	492,265	201,267
1873	829,778	492,520	205,615
1874	854,956	526,632	201,010
1875	850,607	546,453	201,212
1876	887,968	510,315	201,874
1877	888,200	500,496	194,352
1878	891,906	539,872	190,054
1879	880,389	526,255	182,082
1880	881,643	528,624	191,965
1881	883,642	491,935	197,290
1882	889,018	516,654	204,405
1883	890,722	522,997	206,384
1884	908,584	531,951	204,205

Scotland.

1870	115,423	74,067	23,788
1871	116,127	74,644	23,966
1872	118,873	75,741	25,580
1873	119,738	76,857	26,730
1874	123,795	80,676	26,247
1875	123,093	81,785	25,921
1876	126,749	74,122	26,503
1877	126,824	73,946	25,790
1878	126,707	76,775	24,333
1879	125,736	73,329	23,462
1880	124,652	75,795	24,489
1881	126,214	72,301	25,948
1882	126,182	72,966	26,574
1883	124,462	76,867	26,855
1884	129,041	75,128	26,061

Ireland.

Years.	Births.	Deaths.	Marriages.
1870	150,151	90,695	28,835
1871	151,665	88,720	28,960
1872	149,292	97,577	27,114
1873	144,377	97,537	26,270
1874	141,288	91,961	24,481
1875	138,320	98,114	24,037
1876	140,469	92,324	26,388
1877	139,659	93,543	24,722
1878	134,117	99,629	25,284
1879	135,328	105,089	23,254
1880	128,086	102,906	20,363
1881	125,847	90,035	21,826
1882	122,648	88,500	22,029
1883	118,163	96,228	21,368
1884	119,195	87,564	22,670

Police Force in the United Kingdom.—The strength of the Police Force in 1884 was as follows: in England and Wales, 34,999; Scotland, 3,747; Ireland, 14,902. In 1874 the numbers stood thus: England and Wales, 28,870; Scotland, 3,007; Ireland, 12,545.

The Army.—The strength of the Regular Army at home and abroad in 1884 was as follows:—Officers: at home, 3,578; abroad, 3,519; total, 7,097. Non-commissioned officers and men: at home, 86,416; abroad, 89,491; total, 175,907. Total of officers and men: at home, 89,924; abroad, 93,010. General total, 183,004.

A Census of Children.—The Report of the Education Department contains the following table of the number of children of what is technically termed the school age, viz., from 5 to 13, with the percentage of them at each age found on the register of rate-aided schools:—

Age.	No. of Children.		Percentage on Registers.	
	1883.	1884.	1883.	1884.
5–6	583,457	591,334	72·84	73·50
6–7	569,568	577,257	87·05	85·92
7–8	555,818	563,322	91·27	91·97
8–9	542,341	549,663	93·38	92·91
9–10	529,227	536,371	93·53	95·35
10–11	516,626	523,600	93·09	93·07
11–12	504,536	511,347	83·31	86·12
12–13	493,644	500,308	67·53	66·16
	4,295,217	4,353,202	85·31	85·67

COMMON LODGING HOUSES IN THE METROPOLIS.—During the year 1884 95 new houses were registered, 92 re-opened, and 178 closed, thus leaving 1,113 registered houses under control at the end of the year, the same being apportioned to accommodate 31,064 lodgers. The above numbers show an increase of 9 houses and an increase of 1,678 lodgers on the numbers of the preceding year. 320 keepers have been served with notices to register their houses; 246 of this number subsequently made application to provisionally register, the remainder either discontinued to receive lodgers or have made such alteration in their houses as to exempt them from the provisions of the Act. 480 non-registered houses are periodically visited to enforce the Acts; a number of these will be registered when the necessary alterations and improvements are completed. 203 houses were surveyed, of which 69 were those requiring re-measurement, caused through alterations to afford increased accommodation having been made, the whole apportioned to receive 3,339 lodgers. 27 keepers and 1 owner of registered and 4 keepers of non-registered houses were summoned; the first for various infringements of the Acts and regulations, and the latter for receiving lodgers and refusing to register their houses after receiving notice, all of whom were convicted and fined.

LONDON CAB DRIVERS AND CONDUCTORS.—The Commissioner of Metropolitan Police reports that the number of licences issued during the year 1884 were 13,824 for hackney drivers, 4,532 for stage drivers, and 5,907 conductors, total 24,263, an increase of 644 over and above those issued in 1883, and made up of 290 additional hackney drivers, 285 additional stage drivers, and 69 additional conductors.

LUNATICS.—The number of lunatics, idiots, and persons of unsound mind in England and Wales included in the last returns amounted in all to 79,704, of which number 35,839 were men and 43,865 were women. Of these, 7,751 were classed as private patients, 71,215 came under the head of paupers, and 738 were criminals. The private class includes not only such patients as are paid for out of their own pecuniary means, or those of their relations and friends, but also 561 patients who were maintained by the State at the Royal India Asylum, at the Yarmouth Naval Hospital, at the Netley Military Hospital, and at Grove Hall, Bow. The pauper class comprises all those who, according to the statutory definition, "are maintained wholly or in part by, or chargeable to, any parish, union, or county." The above total shows, as compared with that of the previous year, a decrease of 74 in the private class, an increase of 1,256 in the pauper class, and a decrease of 6 in the criminal class. The total increase of the year, therefore, amounts to 1,176, a figure considerably lower than the average annual increase of past years. The ratio of fresh admissions to the population for the past year was 4·95 per 10,000, whilst in 1883 the ratio per 10,000 was computed at 5·15, and that for the last ten years has shown an average of 5·19. The actual number of fresh admissions into the various asylums, hospitals, and licensed houses during the year amounted to 14,312, and the number of patients discharged as recovered during the year amounted to 5,775. The average number of recoveries varies but little from year to year; and during the year under review it amounted to 35·34 per cent. on the admissions in the case of men, and to 45·17 per cent. in the case of women. The number of deaths per 100 of the daily average number of patients of all classes resident in the year was 9·51, being 11·45 in the case of males and 7·86 in the case of females. This death-rate, however, varies very considerably among the different classes of establishments, being highest in the metropolitan licensed houses, with a figure of 10·47 per cent., and lowest in the idiot establishments, where in the year it amounted to only 2·96 per cent. This lower death-rate is also noticeable in the criminal asylum at Broadmoor, where the death-rate was 3·46 per cent.

MERCHANT SHIPPING SERVICE.—The following table shows the number of persons employed in registered sailing and steam vessels (exclusive of river steamers) of the United Kingdom in the Home and Foreign trade from 1873 to 1884:—

Year.	Vessels.	Tons.	Persons employed (exclusive of masters).
1873..	21,581	5,748,097	202,239
1874..	20,872	5,864,588	203,606
1875..	20,191	5,891,692	199,667
1876..	20,349	5,996,152	198,638
1877..	20,319	6,115,638	196,562
1878..	20,094	6,236,124	195,585
1879..	20,029	6,249,833	193,548
1880..	19,972	6,344,577	192,972
1881..	19,311	6,490,953	192,903
1882..	18,966	6,715,030	195,937
1883..	18,912	7,026,062	200,727
1884..	18,744	7,083,944	199,654

MISSING PEOPLE.—14,478 children under 10 years of age and 3,938 adults were reported to the Metropolitan Police in 1884 as lost or missing; 8,485 children and 821 adults were found by the police. 74 of the adults committed suicide. 121 adults and 8 children have never been traced. 105 bodies of persons found dead and unknown were photographed, but 54 were not identified.

5. CRIME, PAUPERISM, AND ACCIDENTS.

METROPOLITAN POLICE FORCE. — The strength of the Metropolitan Police in 1884 stood as follows:—25 superintendents, 637 inspectors, 1,067 sergeants, and 11,151 constables, total 12,880.

DRUNKENNESS IN LONDON.—In the year 1884 17,203 persons were charged as drunk and disorderly, being a decrease of 2,284 cases over the previous year. Simple drunkenness increased from 7,058 in 1883 to 7,934 in 1884, while disorderly characters decreased from 4,881 in 1883 to 4,473 in 1884. Practically there is no striking alteration in the number of cases of drunkenness and disorder which come under the notice of the police. The average proportion per 1,000 of the estimated population of persons apprehended for drunkenness and disorderly conduct from 1860 to 1870 was 5·576. From 1870 to 1880 it increased to 7·156, and the average for the past five years has been 5·491. The proportion was 5·264 in 1883 and 4·883 in 1884.

SERIOUS OFFENCES IN LONDON.—In the year 1884 there was a decrease of 1,513 in the number of serious offences. Larcenies, including those to the amount of 5*l.* in a dwelling, decreased 2,045, but burglaries increased 56, from 331 in 1883 to 387 in 1884; the convictions increased from 93 to 98; and housebreakings increased 158, from 932 to 1,090; the convictions increased from 58 to 84. 3,022 persons were arrested for assaults, more or less serious, on police officers, during the year; on two occasions firearms were used. The Chief Commissioner states in his report that the officers showed great courage, and were severely wounded, but not fatally. The assailants have been captured and sentenced to penal servitude for life.

STOLEN PROPERTY.—The reported loss of property stolen during the year 1884 in the Metropolis was 108,406*l.*, a decrease on the previous year of 7,923*l.*; of the whole reported loss 21,737*l.* was recovered, leaving the nett loss 86,669*l.* The loss on property stolen was distributed amongst the following offences:—burglaries, 2,129*l.*; housebreakings, 10,660*l.*; larcenies by servants and lodgers, 10,694*l.*; other larcenies, 36,284*l.*; embezzlements and frauds, 19,138*l.*; other offences, 7,764*l.* Precisely one-half of the offences of burglary and housebreaking were effected through doors and windows left open or insecure, and 1,157 houses with no person in charge were entered and robbed. The number found open by the police was 27,984, being 1,658 more than in the previous year. The total amount of property stolen was distributed amongst the following offences:—burglaries, 3,481*l.*, or 3·2 per cent.; housebreakings, 11,272*l.*, or 10·4 per cent.; larcenies, 60,791*l.*, or 56·1 per cent.; embezzlements and frauds, 21,774*l.*, or 20·1 per cent.; other offences, 11,088*l.*, or 10·2 per cent.

PAUPERISM.—The following table shows the number of paupers (exclusive of vagrants) in receipt of relief in the several unions and parishes under boards of guardians, in England and Wales, on the 1st January in each year, 1880-85:—

1st January in each year.	Total.		
	In-door.	Out-door.	Total.
1880	189,394	648,636	837,940
1881	189,438	613,688	803,126
1882	188,433	609,181	797,614
1883	190,386	608,910	799,296
1884	187,593	586,717	774,310
1885	190,184	593,971	784,155

WRECKS, AND CASUALTIES 1875-1883.—The following table shows the whole number of lives lost by wrecks and casualties to sailing and steam ships registered in the United Kingdom, whether attended with total loss of ships or not:—

Year.	Crew.	Passengers.
1875..	1,299	193
1876..	1,650	178
1877..	1,233	208
1878..	1,131	60
1879..	1,338	213
1880..	1,681	98
1881..	2,352	231
1882..	1,568	54
1883..	1,992	90
Total	14,244	1,325

STREET ACCIDENTS.—The number of fatal accidents in the London streets which came under police notice increased from 106 in 1883 to 127 in 1884, and according to the more comprehensive returns of the Registrar-General, from 222 in 1883 to 265 in 1884. The number of persons injured in the streets increased from 3,532 to 3,952. A large proportion of the sufferers are not the foot passengers in the streets, but the persons riding and driving. Proceedings were taken against 968 persons for furious riding or driving; 883 were convicted and 85 discharged. 391 of these persons so convicted were drivers of hackney carriages.

6. EDUCATION, SCIENCE, AND ART.

ELEMENTARY SCHOOLS.—The Committee of Council on Education, in their last annual report, state that in the year ending 31st August, 1884, the inspectors visited 18,761 day schools in England and Wales, to which annual grants were made, containing 27,958 departments under separate head teachers, and furnishing accommodation for 4,826,738 scholars. There were on the registers of these schools the names of 4,337,321 children, of whom 1,351,057 were under 7 years of age: 2,798,945 between 7 and 13; 147,296 between 13 and 14; and 40,023 above 14. Of these scholars 3,925,045 were present on the day of the inspectors' visit to their respective schools, and 3,273,124 were, on an average, in daily attendance throughout the year. The number of scholars whose names had been on the school registers for the last 22 weeks of the school year was, in infant schools and classes, 1 069,050; in schools and classes for older scholars, 2,546,064. The number of older scholars presented for examination in Standards I—VII was 2,342,521; and while of these 1,534,629 passed the prescribed tests without failure in any one of the three subjects, 90·78 (89·14) scholars out of every 100 examined passed in reading, 82·42 (82·03) in writing, and 77·53 (77·51) in arithmetic. The figures within brackets show the proportion who passed in the previous year, including those examined under the Code of 1881. While the increase of the population during the year is estimated at 1·35 per cent., the accommodation has increased by 156,295 school places (or 3·35 per cent.); the scholars on the registers by 64,017 (1·5 per cent.); the average attendance by 145,910 (4·67 per cent.). The local effort which has resulted in this improvement may be measured by the continued support derived from voluntary contributions (734,128*l.*), by an advance in the contributions from rates to the maintenance of Board schools from 840,947*l.* to 915,474*l.* The school pence have risen from 1,659,743*l.* to 1,734,115*l.* The annual Government grants to elementary day schools rose in the year from 2,522,541*l.* to 2,722,351*l.*, or from 16*s.* 1½*d.* to 16*s.* 7*d*½. per scholar in average attendance. The night schools examined during the year were 847 in number; 24,434 scholars above 12 years of age were, on an average, in attendance each night; 28,588 scholars were qualified by attendance for examination. Of these, 21,444 were actually examined, and out of every 100 scholars so examined, 93·35 passed in reading, 73·72 in writing, and 45·37 in arithmetic. The additional subjects of examination were taken in 198 schools by 4,619 scholars, of whom 2,470 passed, 554 of them in two subjects.

TRAINING COLLEGES.—The inspectors found 38,999 certificated teachers at work in the aided schools which they visited, while the 41 training colleges, from which the supply of such teachers is mainly recruited, were attended in 1884 by 3,214 students. These students (with a few exceptions), and 3,180 acting teachers, were examined for certificates in December last. At Midsummer, 1884, 4,822 candidates were examined for the 1,700 vacancies declared in the training colleges, of whom 3,127 passed creditably, and 1,633 are now in their first year of residence, along with 1,601 students of the second year.

ANNUAL PARLIAMENTARY GRANTS FOR EDUCATION IN ENGLAND FROM 1833 TO 1885.

1833–1838	£20,000	1866	£694,550
1839–1841	30,000	1867	705,865
1842–1844	40,000	1868	781,324
1845	75,000	1869	840,711
1846–1850	115,000	1870	914,721
1851	150,000	1871	1,458,402
1852	160,000	1872	1,551,560
1853	260,000	1873	1,299,803
1854	263,000	1874	1,356,852
1855	396,921	1875	1,548,563
1856	451,213	1876	1,707,055
1857	541,233	1877	1,910,000
1858	663,435	1878	2,149.208
1859	836,920	1879	2,481,168
1860	798,167	1880	2,535,967
1861	803,794	1881	2,683,953
1862	842,119	1882	2,749,863
1863	804,002	1883	2 938,930
1864	705,404	1884	3,016,167
1865	693,078	1885	3,181,875

TWELVE YEARS OF SCHOOL BUILDING.—The Committee of Council on Education state that in the twelve years ending on the 31st of December, 1882, building grants to the amount of 312,200*l.* have been paid by the Education Department, on the completion of the erection or enlargement of 1,572 schools, and 933 teachers' residences, affording new or improved accommodation for 280,146 scholars. These grants have been met by local contributions to the amount of 1,348,169*l.* The average cost of erecting voluntary schools, with residences for the teachers, has been about 5*l.* 7*s.* per scholar. This includes, as a rule, the value of the sites, very often given gratuitously in the case of schools of this class. The great majority of the remaining 4,727 voluntary schools, with seats for some 1,177,834 children, which have come under inspection since 1870, have been erected, enlarged or improved, without Government aid, at a cost to the promoters of at least 5,000,000*l.* The school boards have availed themselves

freely of the power of borrowing, on the security of the rates, given by the Acts of 1870 and 1873. Up to the 1st of April, 1885, the Education Department had sanctioned 6,160 loans, amounting to 17,355,954*l.* 19*s.* 3*d.* to 1,740 school boards (13,849,256*l.* 5*s.* 6*d.* from the Public Works Loan Commissioners; 3,506,698*l.* 13*s.* 9*d.* from the Metropolitan Board of Works and in the open market) by means of which new accommodation will be furnished for some 1,416,409 scholars. The estimated cost per child is thus about 12*l.* 5*s.* 0*d.* but the amount of the loan applied for is generally somewhat in excess of the sum eventually spent.

PROGRESS OF EDUCATION IN GREAT BRITAIN.—The following table exhibits the progress of education in Great Britain in schools under Government inspection from 1869 to 1884, distinguishing England and Wales from Scotland:—

Years ended 31st August.	Number of Schools Inspected.	Number of Children who can be Accommodated.	Average number of Children in Attendance.	Number of Children present at Inspection.
	ENGLAND and WALES (including ISLE OF MAN SCHOOLS from 1869 to 1877; and ROMAN CATHOLIC SCHOOLS in SCOTLAND, from 1869 to 1874).			
1869	8,592	1,838,416	1,153,572	1,448,299
1874	13,084	2,952,479	1,710,806	2,093,180
1876	14,875	3,483,789	2,007,732	2,448,299
1877	15,187	3,653,418	2,150,683	2,633,198
1878	16,293	3,942,337	2,405,197	2,944,127
1879	17,166	4,142,224	2,594,995	3,122,672
1880	17,614	4,240,753	2,750,916	3,268,147
1881	18,062	4,389,633	2,863,535	3,372,990
1882	18,289	4,538,320	3,015,151	3,542,742
1883	18,540	4,670,443	3,127,214	3,705,388
1884	18,761	4,826,738	3,273,124	3,925,045
	SCOTLAND (exclusive of ROMAN CATHOLIC SCHOOLS, included above). from 1869 to 1883.			
1869	1,745	237,928	179,214	191,203
1874	2,587	391,592	274,588	314,576
1876	2,912	462,986	332,545	382,224
1877	2,931	535,949	360,413	417,699
1878	2,998	563,481	377,257	439,021
1879	3,003	585,629	385,109	447,801
1880	3,056	602,054	404,618	470,581
1881	3,074	612,483	409,966	475,021
1882	3,073	619 086	421,265	490,372
1883	3,090	633,701	433,137	498,514
1884	3,131	655,6[illegible]2	448,242	518,844
	TOTAL FOR GREAT BRITAIN.			
1869	10,337	2,076,344	1,332,786	1,639,502
1874	15,671	3,344,071	1 985,394	2,407,756
1876	17,787	3,946,775	2,340,227	2,830,523
1877	18,118	4,189,367	2,511,096	3,050,897
1878	19,291	4,505,818	2,782,454	3,383,148
1879	20,169	4,727.853	2,980,104	3,570,473
1880	20,670	4,842,807	3,155,534	3,738,728
1881	21,136	5,002,116	3,273,501	3,848,011
1882	21,362	5,157,406	3,436,416	4,033,114
1883	21,630	5,304.144	3,560,351	4,203,902
1884	21,892	5,482,410	3,721,366	4,443,889

ELEMENTARY SCHOOLS (RELATIVE COST).—The following table shows the amount of the income, expenditure, and grant of the Voluntary and Board schools in certain localities during 1884:—

	Income per scholar in average attendance from				Expenditure per scholar in average attendance.				Grant earned per scholar in average attendance		
	School pence.			Voluntary contributions.	For salaries.			Total.			
Voluntary Schools.	£	s.	d.	£ s. d.	£	s.	d.	£ s. d.	£	s.	d.
Church of England	0	10	7½	0 7 2½	1	7	5	1 15 2½	0	16	3½
Wesleyan..	0	15	11¼	0 2 7	1	8	1⅔	1 15 5	0	17	0¼
Roman Catholic..	0	9	5¼	0 6 10½	1	2	2¼	1 12 0¾	0	16	4¾
British and Undenominational	0	13	3¾	0 5 7½	1	8	9	1 16 10	0	16	9½
Birmingham	0	10	8	0 5 3¾	1	4	0¼	1 12 1¼	0	17	0¾
Liverpool..	0	13	0	0 3 1	1	4	4½	1 12 7½	0	17	2¼
London	0	13	5¼	0 9 0¼	1	10	7½	2 2 2	0	16	11½
Manchester	0	12	9¼	0 4 7	1	5	5¾	1 15 4¾	0	17	2
Sheffield	0	13	6	0 2 4¾	1	5	5¼	1 12 8¼	0	14	5½
England and Wales	0	11	2	0 6 8½	1	7	2¾	1 15 2	0	16	4¾
				Rates.							
Board Schools.											
Birmingham	0	6	8¼	0 13 10¾	1	10	8¾	1 19 4½	0	18	4¼
Bradford	0	15	7½	0 13 2	1	15	11¾	2 5 11¾	0	19	2½
Brighton	0	9	10½	0 17 7	1	15	11	2 5 10½	0	19	1
Bristol	0	6	10½	0 15 3¼	1	6	7¼	1 17 2¼	0	16	7½
Hull	0	10	4¾	0 3 8¾	1	3	8¼	1 9 0¼	0	16	6
Leeds	0	10	8½	0 14 11½	1	11	4½	2 0 10½	0	17	3¾
Liverpool..	0	13	10¼	0 12 0	1	11	11¾	2 2 10½	0	19	1½
London	0	7	10¾	1 9 9	2	3	2	2 14 6	0	17	9¾
Manchester	0	15	2¼	0 10 10	1	8	11¼	2 2 2½	0	18	11¼
Sheffield	0	13	4¼	0 9 8	1	8	5	1 19 6¾	0	17	4½
England and Wales	0	9	5¾	0 16 3	1	12	3	2 1 8½	0	17	1

SCHOOL MAINTENANCE.—The following table shows the cost of "maintenance" per child in average attendance in the Public Elementary Schools of the United Kingdom in 1884:

1884.	England and Wales.			London.			England, including London.			England, excluding London.			Wales.			Scotland.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
In Board Schools ..	2	1	8½	2	14	6	2	2	3¼	1	18	0¼	1	14	7	2	2	8
In Voluntary Schools ..	1	15	2	2	2	2	1	15	3	1	14	7¼	1	12	9½	1	16	11
These charges were met—																		
In Board Schools—																		
By the ratepayers ..	0	16	3	1	9	9	0	16	7½	0	12	0⅔	0	11	5¼	0	11	8½
By the children ..	0	9	5¾	0	7	10¾	0	9	7¾	0	10	2⅔	0	7	6	0	12	10¾
By endowment ..	0	0	0½	0	0	0¼	0	0	0½	0	0	0⅔	0	0	0¼	0	0	6¼
By miscellaneous receipts	0	0	5¾	0	0	9¼	0	0	6	0	0	5	0	0	1½	0	0	3½
In Voluntary Schools—																		
By the subscribers ..	0	6	8¼	0	9	0¼	0	6	8¼	0	6	5¾	0	7	2	0	5	11
By the children ..	0	11	2	0	13	5¼	0	11	3¼	0	11	1	0	8	2¾	0	12	2¼
By endowment ..	0	1	5	0	2	6	0	1	5	0	1	3¾	0	1	5	0	2	0¾
By miscellaneous receipts	0	0	4¼	0	0	7¼	0	0	4¼	0	0	4¼	0	0	3¼	0	0	4

SINGING IN ELEMENTARY SCHOOLS.—The Committee of Council on Education in their last report state that the grant at the rate of 1*s.* for singing by note has been

earned in 5,285 departments (24·45 per cent.), with an average attendance of 894,774 (38·68 per cent.); at the rate of 6*d.* for singing by ear, in 16,147 departments (74·69 per cent.), with an average attendance of 1,409,924 (60·95 per cent.). The grant was not paid in 186 departments (with an average attendance of 8,658), in 116 of which singing was not a subject of instruction. The average "numbers for payment" in each department were in those paid at the rate of 1*s.*, 169; in those paid at the rate of 6*d.*, 87; and for each department where the grant was not paid, 47.

TEACHING POWER IN ELEMENTARY SCHOOLS.—The 18,761 elementary day schools in England and Wales, inspected in 1884, provided accommodation, in 27,958 departments, for 4,826,738 scholars, and 38,999 certificated teachers were employed in their instruction. The average daily attendance in these schools amounted to 3,273,124. There were on the 31st of December, 1869, 12,842 pupil-teachers, 1,236 assistant teachers, and 12,027 certificated teachers at work in schools under inspection. These numbers have now risen to 25,087 pupil-teachers, 15,147 assistant, and 38,999 certificated teachers; while the pupil teachers in the first year of their service have increased from 3,392 in 1869 to 4,996 in 1884.

TEACHERS' SALARIES.—The average salary of a certificated master, which in 1870 was 95*l.* 12*s.* 9*d.*, is now 119*l.* 3*s.* 6*d.*; that of a schoolmistress, was 57*l.* 16*s.* 5*d.* in 1870, and is now 72*l.* 4*s.* 2*d.* In addition to their other emoluments, 6,202 out of 15,243 masters, and 5,436 out of 22,434 mistresses, are provided with residences free of rent; these averages are calculated upon the whole of the certificated teachers, whether principal or assistant. In the metropolitan district, in the past year, the average salary of 380 masters (principal teachers) in voluntary schools was 152*l.* 9*s.* 5*d.*, and that of 313 principal masters in board schools 257*l.* 15*s.* 5*d.*; while 598 schoolmistresses in board schools enjoyed an average income of 178*l.* 11*s.* 2*d.* as compared with 87*l.* 5*s.* 1*d.* that of 815 teachers in voluntary schools. The salaries of 7 masters in voluntary schools, and of 89 in board schools, amounted to 300*l.* a year and upwards, while 5 schoolmistresses in voluntary, and 189 in board schools, had salaries of 200*l.* and upwards.

FEMALE TEACHERS.—There is a great and increasing tendency to employ female teachers in elementary schools. In 1869, for every 100 teachers of each class, 48 certificated teachers, 60 assistant teachers, and 57 pupil-teachers were females; these proportions have increased in 1884 to 59 certificated teachers, 69 assistant teachers, and 72 pupil-teachers. The number of female pupil-teachers in 1869 was 7,273: they now number 18,008, an increase of 148 per cent. The male pupil-teachers, who numbered 5,569 in 1869, have increased to 7,079, or by about 27 per cent.

THE NATIONAL GALLERY.—As nearly as can be calculated, the National Gallery was visited by 698,489 persons on the public days during the year, showing a daily average attendance on such days (207 in number) of 3,374. These numbers must, however, be only regarded as approximate, no accurate means of checking them being in use. On students' days (Thursdays and Fridays), when the number of visitors entering by payment is registered by a turnstile, 36,971 persons were admitted between the 1st of January and the 31st December, 1884; the admission fees (at 6*d.* each) amounting to 924*l.* 5*s.* 6*d.*, as compared with 914*l.* 6*s.* received in 1883. The amount annually realised by admission fees is paid into Her Majesty's Exchequer under the head of "extra receipts." The total number of students' attendances at the Gallery on Thursdays and Fridays throughout the year was 24,508. Independently of partial studies, 694 oil-colour copies of pictures have been made, viz., 464 from the works of 61 old masters, and 230 from the works of 24 modern painters. The total number of pictures now contained in the public rooms of the Gallery is about 950, exclusive of water-colour drawings. The following pictures were purchased during the year 1884. (A. Purchased out of Government Grant.) 1. "The Assumption of the Virgin," by Matteo di Giovanni di Bartolo; 2. Landscape, "The Calling of Abraham," by Gaspard Dughet (Poussin); 3. "The Adoration of the Magi," Venetian School; 4. "The Pilgrimage to Canterbury" (after Chaucer), by T. Stothard, R.A. (B. Purchased out of the "Wheeler Bequest.") 5. "On the Ouse, Yorkshire," by Geo. Arnald, A.R.A.; 6. "View of Harlech Castle, and surrounding Landscape," by James Ward, R.A.; 7. "Portrait of Miss Fenton, the Actress, as 'Polly Peachum' in the Beggar's Opera," by William Hogarth; 8. "The Shrimp Girl" (a sketch), by William Hogarth (C. Purchased out of the "Clarke Bequest.") 9. "The Crucifixion," by Antonello da Messina; 10. "Portrait of a Jesuit," by W. Van der Vliet; 11. "Portrait (supposed to represent Mary Wollstonecraft)," by J. Opie, R.A. The following donations to the Gallery were made in 1884: 1. "The Nativity," by Bernardino Cavallino; presented by Mr. Woodford Pilkington. 2. "The Virgin and Child, with two Saints," by Bonvicino. 3. "The Procession from Calvary," by William Blake; presented by Mr. Francis T. Palgrave. 4. "Tartarus," a Satirical design, by James Callot; presented by Miss Appleyard.

7. EMIGRATION.

IMMIGRANTS.—The following table shows the number of persons who arrived in this country from places out of Europe, so far as recorded, showing their nationality and the countries whence they came, in 1884:—

Nationality.	United States.	British North America.	Australasia.	C. of Good Hope and Natal.	All other places.	Total for 1884.	Total for 1883.
British and Irish .	61,466	8,861	8,312	5,460	7,257	91,356	73,804
Foreigners ..	29,550	306	382	786	983	32,007	26,699
Not distinguished	—	—	—	—	103	103	—
Total.. ..	91,016	9,167	8,694	6,246	8,343	123,466	100,503

FIFTEEN YEARS EMIGRATION.—The following table shows the number of emigrants of British origin only, from the United Kingdom to countries out of Europe, from 1870 to 1884:—

YEARS	EMIGRANTS TO				
	British North American Colonies.	United States.	Australia and New Zealand.	Other Places.	Total.
1870	27,168	153,466	16,526	5,351	202,511
1871	24,954	150,788	11,695	5,314	192,751
1872	24,382	161,782	15,248	9,082	210,494
1873	29,045	166,730	25,137	7,433	228,345
1874	20,728	113,774	52,581	10,189	197,272
1875	12,306	81,193	34,750	12,426	140,675
1876	9,335	54,554	32,196	13,384	109,469
1877	7,720	45,481	30,138	11,856	95,195
1878	10,652	54,694	36,479	11,077	112,902
1879	17,952	91,806	40,959	13,557	164,274
1880	20,902	166,570	24,184	15,886	227,542
1881	23,912	176,104	22,682	20,304	243,002
1882	40,441	181,903	37,289	19,733	279,366
1883	44,185	191,573	71,264	13,096	320,118
1884	31,134	155,280	44,255	11,510	242,179

THE EMIGRATION OF 1884.—There was a general and large decline in emigration in 1884, and the decline was accompanied by an increase of immigration from the countries to which emigration in ordinary years takes place. If it be true that the emigration in 1883 of persons of British and Irish origin was largely an assisted emigration, and not such as would have taken place in the ordinary course, and from natural causes only, then it may be considered that for two years past the natural tendency has been for emigration to fall off, and this tendency was more marked in 1884 than it had been in any previous year since the great increase of emigration in 1881. Comparing the figures as to emigration alone, without taking into account the immigration for the years 1883 and 1884, we obtain the following comparison:—

—	Total including foreigners.	Emigrants of British and Irish origin only.
Number of emigrants in 1884..	303,901	242,179
Number of emigrants in 1883..	397,157	320,118
Decrease..	93,256	77,939

DESTINATION OF BRITISH EMIGRANTS.—Of the 242,179 emigrants of British origin who left the United Kingdom in 1884, the destination of the larger numbers was returned as follows: to the British North American Colonies, 31,134; to the United

States, 155,280; to Australia and New Zealand, 44,255; and to other places, 11,510.

SEX AND CONJUGAL STATE OF BRITISH EMIGRANTS.—The following is an account in detail of the number of emigrants of British nationality, leaving the United Kingdom in 1884 of each sex, and the conjugal conditions of the adults:—

Adults:		
Married	Males	25,311
	Females	31,578
Single	Males	92,467
	Females	48,421
Conjugal condition not stated	Males	—
	Females	—
Total		197,777
Children from 1 to 12 years and Infants	Males	23,211
	Females	21,191
Total		242,179

SEX AND CONJUGAL STATE OF FOREIGN EMIGRANTS.—The following is a similar statement of the emigrants of foreign origin:—

Adults:		
Married	Males	31,297
	Females	38 836
Single	Males	119 111
	Females	57,288
Conjugal condition not stated	Males	1,508
	Females	—
Total		248,040
Children from 1 to 12 years and infants	Males	29,639
	Females	26,222
Total		303,901

OCCUPATION OF EMIGRANTS.—The following is a statement of occupations of adult passengers of each sex leaving the United Kingdom in 1884, so far as can be ascertained:—

Occupation.	Total.
Adult Males:	
Agricultural Labourers, Gardeners, Carters, &c.	9,411
Bakers, Confectioners, &c.	296
Blacksmiths and Farriers	283
Boot and Shoe Makers	279
Braziers, Tinsmiths, Whitesmiths, &c.	108
Brick and Tile Makers, Potters, &c.	62
Bricklayers, Masons, Plasterers, Slaters, &c.	1,218
Builders	98
Butchers, Poulterers, &c.	231
Cabinetmakers and Upholsterers	119
Carpenters and Joiners	1,784
Clerks and Agents	2,350
Clock and Watch Makers and Jewellers.	129
Coachmakers and Trimmers	57
Coopers	71
Domestic Servants	415
Engine Drivers, Stokers, &c.	190
Engineers	727
Farmers and Graziers	6,974
Gentlemen, Professional Men, Merchants, &c.	13,786
Labourers, General	71,752
Locksmiths, Gunsmiths, &c.	18
Mechanics	6,553
Millers, Maltsters, &c.	79
Miners and Quarrymen	4,284
Painters, Paperhangers, Plumbers, and Glaziers	922
Printers	202
Saddlers and Harness Makers	63
Sawyers	38
Seamen	284
Shipwrights	46
Shopkeepers, Shopmen, Warehousemen, &c.	1,444
Smiths, General	206
Spinners and Weavers	318
Tailors	374
Tanners and Curriers	31
Turners	35
Wheelwrights and Millwrights	84
Army and Navy:—Officers	392
,, Men	42
Other Trades and Professions	2,122
Males:—Occupation not stated	24,039
Adult Females:	
Domestic and Farm-Servants, Nurses, &c.	22,828
Gentlewomen and Governesses	114
Milliners, Dressmakers, Needlewomen, &c.	597
Shopwomen	30
Spinners and Weavers	42
Other Trades and Professions	405
Females:—Occupation not stated	72,108
Total Adults	248,040

EMIGRATION AND IMMIGRATION.—The following table shows the balance of emigration, deducting recorded immigration from total recorded emigration from the United Kingdom from 1872 to 1884:—

Year.	Emigration.	Immigration.	Net emigration.
1872	295,213	70,181	225,032
1873	310,612	86,416	224,196
1874	241,014	118,129	122,885
1875	173,809	94,228	79,581
1876	138,222	93,557	44,665
1877	119,971	81,848	38,123
1878	147,663	77,951	69,712
1879	217,163	53,973	163,190
1880	332,294	68,316	263,978
1881	392,514	77,105	315,409
1882	413,288	82,804	330,484
1883	397,157	100,503	296,654
1884	303,901	123,466	180,435

8. THE POST OFFICE.

REVENUE AND EXPENDITURE.—The gross revenue and expenditure for the year ended 31st March, 1885, were as follows:—

	£	£	Increase (+) or decrease (−) on 1883–4. £
The gross Revenue for the year was 10,032,483*l.*, arrived at thus:—			
Postages on letters, parcels, post cards, newspapers, &c.	..	7,629,820	+144,614
Commission on money orders	186,719		
Commission on postal orders	85,567		
Value of unclaimed money orders	4,300		
		276,586	− 3,063
Savings bank profits	..	341,658	− 316
Revenue from telegraphs	..	1,784,419	− 4,805
		10,032,483	
The expenditure, including expenses incurred by other Departments, was:—			
For postal service, including money order and postal order business	4,698,194	..	+198,001
,, packet service	619,019	..	− 35,617
,, savings bank	248,618	..	+ 438
,, telegraph service*	1,820,354	..	+ 14,410
[This includes an exceptional expenditure of 175,000*l.* towards preparation for a reduced tariff.]			
		7,386,185	
The net revenue was, therefore	..	2,646,298	− 40,802

THE WORK OF 1884.—The estimated number of letters delivered in the United Kingdom during the twelve months ended 31st March was 1,360,341,400; of post cards, 160,340,500; of book packets and circulars, 320,416,800; of newspapers, 143,674,500; giving a total of 1,984,773,200. The number of parcels sent by post was 22,904,373; making a grand total of deliveries of 2,007,677,573. The number of registered letters was 11,365,151, being a decrease of 1·5 per cent. The yearly increase in the population is estimated to be about 1 per cent., while the increase in the correspondence is 3·8 per cent., or three times the rate of increase in the population. The average number of letters to each person in the United Kingdom, which stood at 15 in 1854, and 22 in 1864, rose to 38 in 1885. Including post cards, the average per person was 42, a far larger proportion than in any other country.

POST OFFICES AND LETTER BOXES.—The number of Post Offices in the United Kingdom has been increased by 483, making the total number 16,434, of which 919 are Head Offices. 773 letter boxes have been added, bringing the total number of receptacles of all sorts for letters up to about 33,000.

OFFICERS EMPLOYED.—The total number of officers on the permanent establishment of the department is about 48,000; the number added during the year having been 1,969. The number of females included in this total is 2,919.

INLAND PARCEL POST.—The number of parcels carried by the department increases steadily, and the Postmaster-General gives for the first time the experience of a complete financial year from the 1st of April, 1884, to the 31st of March, 1885. 22,904,273 parcels were posted, of which 19,222,047 were posted in England and Wales. 2,376,177 in Scotland, and 1,306,149 in Ireland. For the 22,904,373 parcels the gross amount of postage was 508,070*l.* Of this amount 55 per cent. on railway borne parcels was paid to railway companies

* The annual interest on the capital sum of 10,880,571*l.* raised by the Government for the purchase of the Telegraphs, amounting to 326,417*l.*, is not borne on the Post Office votes.

amounting to 256,457*l*., and the Post Office share was, the Postmaster-General states, 251,613*l*., or 2·64*d*. per parcel. The business is still increasing, and the number of parcels carried during the last week for which returns have been obtained (June 6, 1885) was at the rate of nearly 27,000,000 a-year, showing an increase of 23 per cent. over the corresponding week of the previous year. The average amount of postage on each parcel is less than was expected, showing that the larger part of the business is in small parcels of light weight, and although no doubt the revenue derived is overtaking the expenditure, some little time must, he says, elapse before a balance of revenue and expenditure can be reached. In order to test the comparative advantages to the public of the Parcel Post and other parcel carrying agencies, an experiment was made some months ago of sending 100 parcels by post and 100 (bearing like addresses and despatched simultaneously) by railway or carrier. The parcels were sent from all parts of the country, and in the majority of cases the place of origin and the place of destination were on different railway systems, the parcels being what are technically known as cross post parcels. In the result it appeared that 71 per cent. of the test parcels were delivered earlier by post than by other means; while the average time occupied in transmission was 20 hours 21 minutes for a parcel by post against 25 hours 50 minutes for a parcel forwarded in other ways. Another point in favour of the Parcel Post was that the parcels by post were invariably delivered at the house of the addressee, whereas the railway parcels had in some cases to be fetched from the railway station.

Postal Curiosities.—In the summer of 1884 a bird described as a "blue breast" hatched a fine brood in a private letter-box in a road near Lockerbie. It appears that the postman was in the habit of giving crumbs of bread to the bird, and that she always remained on her nest when he opened the box, but invariably flew away when any one else opened it. At Greenock a box arrived by Parcel Post, which, in consequence of strange noises within, was opened by the Postmaster, and found to contain a specimen of the common screech owl in an exhausted condition. The bird, having been carefully fed, recovered, and was forwarded to the owner by railway. At Birmingham two cheques for 117*l*. and 20*l*., one payable to bearer and the other uncrossed, were posted in a letter box without cover or address. They were sent to the Returned Letter Office and duly restored to their owners.

Savings Bank.—The business of the Post Office Savings Bank continues to develop. The total amount due to depositors on the 1st of December last was 44,773,773*l*. an increase of 3,004,965*l*. over the previous year. This is exclusive of the balance of Government Stock held by depositors at the close of the year, which amounted to 1,916,325*l*. The deposits were 6,458,707 in number and 14,510,411*l*. in amount, as compared with 6,297,368 amounting to 13,575,167*l*., in 1883; and the withdrawals were 2,198,792 in number and 12,530,563*l*. in amount, as compared with 2,075,465 amounting to 11,800,171*l*. in 1883. The amount of interest credited to depositors was 1,025,117*l*., being an increase of 69,206*l*. over the previous year. During the year 387 *new Savings Bank Offices* were opened; 326 in England and Wales 38 in Scotland, and 23 in Ireland. The total number on the 31st of December was 7,756, as compared with 7,369 in 1883. The greatest number of *deposits* made in one day was 46,041, on the 7th of January, amounting to 102,783*l*.; but the largest amount deposited in one day was 123,500*l*., which was deposited on the 1st of January. The greatest number of *withdrawals* in one day took place on the 23rd of December, when there were 14,843, amounting to 45,859*l*., and the largest amount withdrawn in one day was on the 5th of August, when the number was 8,077 and the amount 76,472*l*. The *daily average of deposits* was 21,107 amounting to 47,420*l*., and of withdrawals, 7,147 amounting to 38,468*l*. The *average amount of each deposit* was 2*l*. 4*s*. 11*d*., and of each withdrawal 5*l*. 14*s*. The number of *new accounts* opened during the year was 774,268, and 546,235 were closed, as compared with 772,201 accounts opened and 525,535 closed in 1883. The number of accounts remaining open at the close of 1884 was 3,333,675, as compared with 3,105,642 in 1883, an increase of 228,033. The accounts were apportioned thus:—

	Number.	Proportion to population.	Average balance due to each depositor.
			£ s. d.
England and Wales	3,086,127	1 to 9	13 9 11
Scotland ...	122,575	1 to 32	7 7 5
Ireland ...	124,973	1 to 40	17 16 0

Investments in Stock.—The investments made through the Post Office Savings Bank numbered 14,200*l*., and the amount of stock purchased was 703,195*l*., being an increase of 1,378 investments and 84,857*l*. in amount over 1883. The number of depositors holding stock at the close of 1884 was 24,993, the amount of stock standing to their credit being 1,916,325*l*., an increase of

4,226 in number and of 396,342*l.* in amount on 1883. The average amount of the stock held by each person was 76*l.* 13*s.* 6*d.*, as compared with 73*l.* 3*s.* 10*d.* at the close of 1883.

GOVERNMENT ANNUITIES AND INSURANCE.—The Government Annuities Act of 1882, under which the payments for Annuities and Life Insurances are made through the medium of the Post Office Savings Bank, came into operation on the 3rd of June, 1884, and the transaction of Government Life Insurance and Annuity business, which, up to that period had been confined to about 2,000 selected Post Offices, was extended to the whole of the Post Office Savings Banks in the United Kingdom, numbering 7,500. During the year ended 31st December, 1884, the number of annuities granted was 886 for a total sum of 17,084*l.*, as compared with 874 for 12,261*l.* in 1883, and 348 Life Insurances were effected amounting to 21,768 as compared with 256 for 20,600*l.* in 1883.

MONEY ORDERS.—The Inland Money Orders issued in 1884 were upwards of 11,900,000 in number, and 23,500,000*l.* in amount, the decrease, as compared with the previous year, being 1,832,605 in number and 1,475,418*l.* in amount. Against this falling off must be reckoned the very large increase in the number and amount of Postal Orders. There was a slight decrease in the Foreign Orders, but an increase in the Colonial Orders. The total number of Money Orders of all descriptions was 12,214,592 and the amount 24,223,295*l.*, as compared with 14,028,302 and 25,646,009*l.* in 1883-84. It is noticeable that upwards of 48 per cent. of the Money Orders were for sums not exceeding 1*l.* A system came into operation on the 1st of January last under which foreign and colonial countries, which have no direct Money Order system between each other, can send and receive Orders through Great Britain. This system, which is simple and inexpensive, but very convenient, has been adopted by a large number of States.

POSTAL ORDERS.—The increased facilities afforded by the provisions of the Act affecting Postal Orders passed in 1883, and the reduction of the rates of commission, have contributed to the rapid development of that branch of business, and the total number of Orders paid during 1884 was 18,831,164, amounting in value to 7,885,347*l.*, as compared with 12,286,556 Orders, amounting to 5,028,663*l.* in 1883-4. The denominations which continue to be most used by the public are 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.*, 5*s.*, 10*s.*, and 20*s.*, the numbers being as follows:—1,407,937 at 1*s.*, 1,003,609 at 1*s.* 6*d.*, 1,371,127 at 2*s.* 6*d.*, 3,036,013 at 5*s.*, 2,916,248 at 10*s.*, and 3,611,521 at 20*s.*

POST CARDS.—The following table shows the estimated number of post cards delivered in England and Wales and in the United Kingdom in each year from 1874 to the present time, and the increase per cent. per annum:—

Year.	England and Wales.	United Kingdom.	
	Number.	Number.	Increase per cent. per annum.
1874	66,000,000	79,000,000	9·7
1875	73,369,100	87,116,300	10·7
1876	78,412,100	92,935,700	6·7
1877–8	86,051,500	102,237,300	10·
1878–9	94,471,500	111,445,700	9·
1879–80	96,637,400	114,458,400	2·7
1880–81	103,473,100	122,884,000	7·4
1881–82	114,251,500	135,329,000	10·1
1882–83	121,243,300	144,016,000	6·4
1883–84	128,554,800	153,586,100	6·6
1884–85	134,071,500	160,304,500	4·4

BOOK PACKETS AND CIRCULARS.—The following table shows the estimated number of book packets and circulars delivered in the United Kingdom in each year from 1874 to the present time, and the increase per cent. per annum:—

Year.	England and Wales.	United Kingdom.	
	Number.	Number.	Increase per cent. per annum.
1874	115,769,600	141,967,100	10·0
1875	133,394,900	158,666,600	11·7
1876	146,405,300	173,724,900	9·4
1877–78	157,691,600	189,300,600	8·9
1878–79	164,789 400	197,076,500	4·1
1879–80	180,541,400	213,963,000	8·6
1880–81	204,003,400	240,356,200	12·3
1881–82	228,999,400	271,038,700	12·8
1882–83	244,713,800	288,206,400	6·3
1883–84	249.347,900	294,594,500	2·2
1884–85	369,429,200	320,416,800	8·8

NEWSPAPERS.—The following table shows the e timated number of newspapers delivered in 1874, 1878–9, 1881–2, and 1884–5:—

Year.	England and Wales.	United Kingdom.	Increase per cent. per annum.
1874	91,230,400	117,032,900	3·5
1878–9	100,424,300	130,895,300	1·8
1881–82	108,651,700	140,789,100	5·2
1884–85	110,682,900	143,674,500	0·7

9. MISCELLANEOUS.

Railway Progress in England and Wales.—The following table shows the total length, capital, passengers conveyed, receipts, and working expenses of railways in England and Wales from 1871 to 1884:—

Years.	Length of lines open at the end of each year.	Total capital paid up (shares, loans, &c.) at the end of each year.	Total No. of passengers conveyed (excluding season-ticket holders).	Gross receipts.	Total of working expenses.	Net traffic receipts of passengers and goods.
	England and Wales.					
	Miles.	£	No.	£	£	£
1871 ..	10,850	461,368,616	328,552,946	41,383,065	19,387,483	21,995,582
1872 ..	11,136	473,639,591	372,450,223	45,039,155	22,065,151	22,989,668
1873 ..	11,369	490,018,994	401,465,086	48,857,278	25,813,377	23,043,901
1874 ..	11,622	508,726,428	423,083,941	50,210,136	27,534,723	22,675,413
1875 ..	11,789	527,090,667	451,032,641	51,726,416	28,220,495	23,505,921
1876 ..	11,989	544,831,959	477,146,165	52,476,319	28,466,366	24,009,953
1877 ..	12,098	557,878,925	490,351,707	53,057,499	28,635,033	24,422,466
1878 ..	12,229	579,387,630	503,982,893	53,142,875	28,099,438	25,043,437
1879 ..	12,547	593,155,665	503,652,787	52,479,379	27,112,853	25,366,526
1880 ..	12,656	602,242,578	540,669,175	55,795,186	28,577,111	27,218,075
1881 ..	12,807	616,437,449	561,224,291	57,240,132	29,685,896	27,554,236
1882 ..	13,052	635,186,791	586,689,830	59,092,802	30,927,457	28,165,345
1883 ..	13,202	650,945,834	612,401,758	60,521,638	31,819,248	28,702,390
1884 ..	13,340	665,055,379	621,131,188	60,099,011	31,732,486	28,366,525

Coal, Iron, and Copper in the United Kingdom.—The following table shows the quantity of coal, iron, and copper produced in the United Kingdom, 1870-1884:—

Year.	Coal.	Pig Iron.	Fine Copper.
	Tons.	Tons.	Tons.
1870	112,431,192	5,963,515	7,175
1871	117,352,028	6,627,179	6,280
1872	123,497,316	6,741,929	5,703
1873	127,016,747	6,566,451	5,240
1874	125,067,916	5,991,408	4,927
1875	131,867,105	6,365,462	4,593
1876	133,344,826	6,555,997	4,694
1877	134,610,763	6,608,664	4,486
1878	132,654,887	6,381,051	3,952
1879	134,008,228	5,995,337	3,462
1880	146,818,622	7,749,233	3,662
1881	154,184,300	8,144,449	3,875
1882	156,499,977	8,586,680	3,464
1883	163,737,327	8,529,300	2,620
1884	160,757,779	7,811,727	3,350

Postal Telegrams — The number of Telegraph Messages despatched in the year 1884–5 in England and Wales was 15,195,618, and in the United Kingdom 33,278,059, an increase of 435 339 over the previous year. The number of messages despatched in London was 12,930,376 as compared with 12,686,433 in 1883–84, and of this number 1,772,125 were for delivery in London.

Land-tax and Inhabited House Duty.—The following table shows the net receipt in the years ended 31st March, 1884, and 1885:—

—	Mar. 31, 1884.	Mar. 31, 1885.	Increase +, or decrease −.
	£	£	£
Land-tax ..	1,061,913	1,044,858	− 17,055
Inhabited house duty	1,837,310	1,855,292	+ 17,982
	2,899,223	2,900,150	+ 927

Income Tax.—The following table shows the net receipt in the years ended 31st March, 1884 and 1885:—

	1884.	1885.	Increase.
	£	£	£
Mar. 31 ..	10,695,046	11,922,770	1,227,724

CHRONICLE OF EVENTS AND OCCURRENCES.

Home and Foreign.

From November, 1884, *to November*, 1885.

1884.

Nov. 7. Bank rate raised to 5 per cent.
8. Letter received from General Gordon confirming report of the massacre of Colonel Stewart and his party near Berber, on October 6th.
13. Epidemic of cholera in France.
14. Shock of earthquake in Lancashire.
—. Centenary of the foundation of the Episcopal Church, U.S.A.
28. Archbishop Trench resigned the See of Dublin.

Dec. 3. Memorial to the late Duke of Albany unveiled in Esher parish church.
5. Franchise Bill and Redistribution Bill read a third time and passed in the House of Lords.
6. Parliament adjourned.
13. Dynamite explosion at London Bridge.
—. Centenary of the death of Dr. Johnson commemorated in England.
16. General Lord Wolseley arrived at Korti.
18. Lord Plunket, Bishop of Meath, elected Archbishop of Dublin on the resignation of Archbishop Trench.
20. The Marquis of Ripon left India on the close of his Viceroyalty.

1885.

Jan. 1. Message, dated December 14, received from General Gordon stating that Khartoum was all right.
2. Dynamite explosion on the Metropolitan Railway, between Gower Street and King's Cross.
8. Prince Albert Victor, elder son of the Prince of Wales, attained his majority.
10. Collision of the *Agincourt* and *Achilles* ironclads in Plymouth Sound.
16. Sentence of the Court of Queen's Bench upon Mr. Edmund Yates for libel upon Lord Lonsdale in the *World* confirmed by the Court of Appeal, and Mr. Yates removed to Holloway Gaol.
17. Battle of Abu Klea. Victory of General Stewart over the Mahdi's followers.
19. Battle of Metamneh: General Stewart wounded.
24. Sir C. Wilson left for Khartoum with two steamers to effect Gordon's release.
—. Dynamite explosions at the House of Commons, Westminster Hall, and the Tower of London.
26. Fall of Khartoum. Death of General Gordon.
27. Betrothal of Princess Beatrice to Prince Henry of Battenberg announced.
29. Bank rate reduced from 5 per cent., to which it was raised on the 7th November, to 4 per cent.
—. London School Board Budget for coming year stated to be 1,106,138*l.*, an increase of 155,333*l.* on the preceding year.

Feb. 2. O'Donovan Rossa fired at by Mrs. Dudley.
7. Commencement of a great Church Mission in the western and north-western parts of London.

Feb. 10. Battle of Kerbekan on the Nile; the position taken, but General Earle, Colonel Eyre, and Colonel Coveney, killed by the Arabs.
13. Langson taken by the French.
19. Parliament reassembled.
21. Embarkation of the Grenadier Guards for the Soudan.
26. Shell explosion at Shoeburyness, six deaths resulted; the jury subsequently found that no blame was attached to any one for the accident.
27. Vote of Censure passed on the Gladstone Ministry in the House of Lords.

Mar. 2. Fatal colliery explosion at Usworth near Newcastle.
-. Retreat of General Brackenbury's force ordered, instead of his advance on Abu Hamad.
3. Contingent of New South Wales Volunteers left Sydney for the Soudan.
4. Mr. Cleveland entered on his office as President of the United States.
10. Mr. Bryce's amendment on the Redistribution of Seats Bill to disfranchise the Universities rejected in the Commons by 260 to 79.
—. Mr. Edmund Yates, proprietor of the *World*, released from Holloway Gaol, owing to ill-health, after two months' imprisonment.
12. Mr. Under-Sheriff Crawford elected by the Court of Common Council of London to be City Solicitor in succession to the late Sir T. J. Nelson.
13. Gordon Memorial services in many English cathedrals and churches.
14. Zebehr Pasha arrested by order of the English Government at Cairo.
16. Address to the Queen voted in the House of Lords, thanking Her Majesty for accepting the offer of a New South Wales contingent for service in the Soudan, and expressing satisfaction at the loyal offers of military service from the colonies and India.
19. Bank rate reduced from 4 per cent., to which it was lowered on 29th January, to 3½ per cent.
20. Lord Thurlow's motion in favour of the Sunday opening of Museums discussed in the House of Lords; 64 voted for and 64 against it, the Lord Chancellor, according to precedent declaring it was not carried.
24. Serious defeat of the French forces at Tonquin.
25. Insurrection of half-breeds at Manitoba.
27. Korti evacuated and the Soudan expedition virtually abandoned.
28. University Boat Race won by Oxford by three lengths.
30. Attack by Russians on Afghan forces at Khusk River.
—. Queen Victoria left England for Aix-les-Bains.

April 1. Festivities in Germany in honour of Prince Bismarck's 70th birthday.
3. Tamai occupied by General Graham and the village burnt.
6. The Viceroy and the Ameer of Afghanistan met at Rawil Pindi.
7. Prince and Princess of Wales left London on their state visit to Ireland.
8. M. Brisson succeeded M. Ferry as Prime Minister of France.
9. Mr. Gladstone described in the House of Commons the condition of affairs on the Afghan frontier, arising out of the Russian attack upon the Ameer's men.

April 12. Demonstration of 20,000 unemployed working men in Hyde Park.
13. Bishop Temple took his seat in the House of Lords on his translation from Exeter to London.
14. Alderman Fowler selected in Common Hall, in the City of London, to serve as Lord Mayor in the place of the late Right Hon. G. S. Nottage.
16. A meeting, presided over by the Lord Mayor, held in the City of London, to give expression to the anxiety felt in the country at the state of the Navy, Mr. W. E. Forster, M.P., being among the speakers.
20. The Government asked for a vote of 11,000,000*l.*, partly to meet obligations imposed on them by the action of Russia on the frontier of Afghanistan, and partly to meet expenditure in the Soudan.
28. The Prince and Princess of Wales returned to London from Ireland.
30. Revised version of the Old Testament presented to Convocation.

May 2. Lord Wolseley reached Suakim.
—. The subway to the Inventions Exhibition from South Kensington Station opened by the Prince of Wales.
4. The International Inventions Exhibition opened by the Prince of Wales.
7. Bank rate reduced from 3½ per cent., to which it was reduced on 19th March, to 3 per cent.
8. Japanese Village at South Kensington burnt to the ground.
11. Lord Hartington announced in the House of Commons the intention of the Government to withdraw from military action in the Soudan.
12. The Redistribution Bill read a third time in the Commons.
14. Bank rate reduced to 2½ per cent.
19. Parliamentary Registration Bill passed through the Lords and returned to the Commons, omitting the clauses which refused enfranchisement to English undergraduates and conferred it upon persons receiving medical relief under the Poor Law. The Commons accepted the amendments.
22. The Sixpenny Telegram Bill in the Commons, and the Girls' Protection Bill "talked out" on the Home Secretary's motion for its second reading.
23. Handoub, near Suakim, evacuated by the British troops.
28. Bank rate lowered to 2 per cent. from 2½, to which it was reduced on the 14th inst.
31. Victor Hugo's body lying in state under the Arc de Triomphe.
—. Great earthquake in Cashmere.

June 1. Victor Hugo's funeral: the body deposited in the Pantheon, which had been secularised to receive it.
10. The Government defeated in the Commons on a Budget resolution.
12. Mr. Gladstone announced the resignation of the Ministry.
—. Serious fire at the India Museum at South Kensington.
14. Sunday Observance Law enforced at Vienna: no afternoon newspapers published.
15. Mr. Gladstone announced that the Marquis of Salisbury had undertaken to form a Cabinet.
16. The Official Gazette of Madrid announced the existence of cholera in many of the Spanish provinces, and in Madrid itself.
—. Mr. Gladstone declined the Queen's offer of an earldom.

June 22. Bicentenary Handel Festival commenced at the Crystal Palace.
25. Sir Hardinge Giffard took his seat as Lord Chancellor for the first time, and Lord Salisbury and his colleagues occupied the Ministerial benches.
—. Clifton Hall Colliery disaster: 176 lives lost.
—. Pusey Memorial House opened at Oxford.
26. First Cabinet Council of the Salisbury Ministry.
29. Freedom of the City of London conferred upon Prince Albert Victor in the presence of the Prince and Princess of Wales and of many Officers of State.
30. The Earl of Carnarvon sworn in at Dublin Castle as Lord Lieutenant of Ireland.

July 9. Criminal Law Amendment Bill read a second time in the Commons.
-. Lord Rothschild took his seat in the House of Lords.
-. A motion in favour of making all Public Elementary Schools free lost at the London School Board by 19 to 18.
-. Sir Michael Hicks-Beach introduced the new Budget providing for an income tax at 8*d*.
14. Education Estimates introduced by Hon. E. Stanhope, the vote being £3,302,772.
—. Handel Bicentenary commemoration at Westminster Abbey.
—. The Bill creating a Secretary for Scotland passed through Committee in the House of Lords.
15. The Munster Bank, county Cork, suspended payment.
16. Baronetcy conferred upon the Right Hon. R. N. Fowler, M.P., Lord Mayor of London.
23. Marriage of Princess Beatrice to Prince Henry of Battenberg at Whippingham Church.

Aug. 6. French Senate accepted the decision of the Chamber to abolish the paper duty.
7. Criminal Law Amendment Bill read a third time in the Commons.
10. Housing of the Working Classes Bill read a second time in the Commons.
12. Vote of thanks to General Lord Wolseley and the officers and men who served in the Soudan carried in both Houses of Parliament.
13. Parliamentary session closed.
14. Deaths from cholera in Spain to this date 56,699 out of 145,000 attacked.
24. The German flag hoisted at Yap, one of the Caroline Islands.

Sept. 4. Great excitement at Madrid on receipt of news that the Germans had taken possession of Yap, in the Caroline Islands.
10. Protocol between England and Russia signed in settlement of the Afghan frontier question.
18. Proclamation in the *London Gazette* proroguing Parliament from October 31 to December 5, and disembodying the Militia which had been called out by the Proclamation of the 18th February.
27. Mr. Stead, editor of the *Pall Mall Gazette*, and the other defendants charged with the abduction of Eliza Armstrong, committed for trial at the Central Criminal Court, after the hearing of the case at Bow Street Police Court.
29. Election of Alderman Staples, F.S.A., as Lord Mayor of London.

Oct. 1. Sixpenny telegrams introduced.
6. Twenty-fifth meeting of the Church Congress held at Portsmouth.

Oct. 7. The Royal Commission on Trade Depression, with the Earl of Iddesleigh as its chairman, held its first meeting.
8. Funeral service for the late Earl of Shaftesbury at Westminster Abbey.
9. Jubilee of municipal corporations celebrated by a banquet of 350 mayors, town clerks, and other officials, in London.
20. The Brunswick Diet adopted with only two dissentients its committee's report rejecting the Duke of Cumberland's claim to the succession.
21. The Brunswick Diet nominated Prince Albert of Prussia as Regent.

Nov. 2. London School Board election.
14. Servia declared war against Bulgaria.
16. Louis Riel executed at Regina for raising a half-breed rebellion in the North-West Provinces of Canada.
17. British troops repulsed the Burmese.
18. The tenth Parliament of Queen Victoria dissolved.
19. Prince Alexander tendered his submission to the Sultan, declaring that he had evacuated Eastern Roumelia.
20. Turkish Council of Ministers resolved to send Djevdet Pasha to Philippopolis, to act as Governor-General of Eastern Roumelia.
23. Polling for the General Election commenced.

NECROLOGICAL TABLE

OF DISTINGUISHED AND NOTABLE PERSONS WHO DIED BETWEEN NOVEMBER, 1884, AND NOVEMBER, 1885.

1884.		Age
Nov.	16. CHOLMONDELEY, Henry, Marquis of, philanthropist; at Houghton Hall, Norfolk	83
	—. LAWRENCE, Sir George, C.B., K.C.S.I., General	79
	21. LONGFIELD, Right Hon. Mountiford, LL.D., Judge, one of the chief framers of the Irish Land Act; at Dublin	83
	—. HUME, Rev. Abraham, Hon. Canon of Liverpool, archæologist; at Liverpool	69
Dec.	3. LEPAGE, Bastien, painter; at Paris	36
	4. GIRDLESTONE, Rev. Edward, M.A., Canon Res. of Bristol; at Bristol	79
	-. WHITE, Mrs. Meadows (Alice Mary Smith), composer; at	44
	14. PELLETAN, Eugène, Republican Senator; at Paris	
	20. JACOB, Venerable Philip, M.A., Archdeacon and Canon of Winchester; at Crawley	81
	23. MUNDY, Sir Rodney, G.C.B., D.C.L., Admiral of the Fleet; at Chesterfield Street	79
1885.		
Jan.	6. JACKSON, Right Hon. and Right Rev. John, D.D., Bishop of Lincoln 1853–69, Bishop of London 1869–85; at Fulham	73
	16. ABOUT, Edmund, novelist and journalist; at Paris	57
	17. BURNABY, Frederick Gustavus, Colonel Royal Horse Guards; at the Battle of Abu Klea	42
	18. WILTON, Earl of, Arthur E. Holland-Grey-Egerton; at Melton Mowbray	51
	23. ST. VINCENT, Viscount, John E. Leveson Jervis, Captain 16th Lancers; from wounds received at Abu Klea	33
	23. HIGGINS, Charles Longuet, M.A., formerly High Sheriff of Bedfordshire, eminent Churchman; at Turvey, Beds.	78
	24. JEFFREYS, John Gwyn, LL.D., F.R.S., conchologist and scientific investigator; at Kensington	76
	26. GORDON, Charles George, Major-General, R.E.; killed at Fall of Khartoum	52
Feb.	1. DE LOME, Dupuy, French naval engineer; in Paris	68
	4. PHILLIMORE, Sir Robert, LL.D., Dean of the Arches Court 1867–75; at Henley	74
	7. NELSON, Sir Thomas James, City Solicitor; at Hampton Wick	58
	10. MACCABE, Cardinal; at Kingstown	69
	—. EARLE, General; killed at Kerbekan on the Nile	52
	16. STEWART, Sir Herbert, K.C.B., General, from wounds received at Battle of Abu Klea; at Korti	42
	—. WORSLEY, Rev. Thomas, D.D., Master of Downing College; at Cambridge	87
	18. SAINTON-DOLBY, Charlotte Helen, vocalist and composer	63
March	9. HAGHE, Louis, artist and President of the Royal Institute of Painters in Water Colours; at Stockwell Road, N.	78
	11. CASSAL, Charles, LL.D., Chevalier of Legion of Honour, Professor of French at University College; at Adelaide Road, London	67

			Age
Mar.	12.	LAMPSON, Sir Curtis M., Vice-Chairman of the Company which laid the Atlantic cable in 1866; at Eaton Square.	79
	14.	HADFIELD, M. E., architect, designed G.N. Hotel, Leeds, R.C. Cathedral, Salford, and Glossop Hall; at Sheffield.	72
	18.	BAZLEY, Sir Thomas, Bart., cotton manufacturer, M.P. for Manchester 1858–80, being when he retired the "Father of the House of Commons"; at Lytham. . .	88
	21.	WORDSWORTH, Right Rev. Christopher, D.D., Bishop of Lincoln 1869–1884; at Harewood, Leeds . . .	78
	—.	PARKES, Sir Harry S., G.C.M.G., K.C.B., British Minister at Pekin; at Pekin	67
	24.	DAVISON, J. W., musical critic; at Margate. . . .	71
	29.	ORLOFF, Prince, Russian Ambassador to France for 13 years; at Fontainebleau.	
	30.	MUNRO, Hugh Andrew Johnstone, Senior Fellow of Trinity College, Latin Scholar and Professor, editor of "Lucretius," &c.; at Rome	66
	31.	FABRIZZI, Nicola, General, one of Garibaldi's principal suporters; at Rome	80
April	2.	CAIRNS, Right Hon. Hugh McCalmont, the Earl, Lord High Chancellor 1868–80; at Bournemouth	65
	—.	ABT, Franz, composer of songs and part music; at Wiesbaden	66
	—.	ALEXANDER, Sir James Edward, C.B., General; at Ryde .	82
	6.	COFFIN, Rev. Dr., Bishop (R.C.) of Southwark; at Teignmouth	65
	11.	NOTTAGE, Right Hon. G. S., Lord Mayor of London; at the Mansion House	62
	—.	PHILP, James George, landscape painter; at Falmouth .	69
	13.	SARTORIUS, Sir George Rose, G.C.B., Admiral of the Fleet; at Lymington	94
	—.	SULLIVAN, Right Hon. Sir E., Lord Chancellor of Ireland since 1883; in Dublin	63
	18.	BLAKESLEY, Very Rev. Joseph Williams, B.D., Dean of Lincoln; at Lincoln.	77
	20.	ANSDELL, Richard, R.A., artist; at Farnborough . .	70
	24.	NACHTIGAL, Dr., traveller; on West Coast of Africa .	50
	25.	EMMA, Queen of the Sandwich Islands; at Hawaii . .	40
May	7.	DUDLEY, Earl of, great benefactor to the Church; at Park Lane, W.	68
	8.	RICHARDS, Brinley, musician; composer of "God bless the Prince of Wales"; at Kensington	66
	9.	WYNN, Sir Watkin Williams, Bart., M.P. for Denbighshire; at Wynnstay, Ruabon	64
	—.	HILLER, Ferdinand, pianist, composer, conductor, and author; at Cologne	74
	13.	EWING, Juliana Horatia, writer of stories for children; at Bath	43
	15.	FARGUS, Fred J. ("Hugh Conway"), author of "Called Back" and other works of fiction; at Monte Carlo .	37
	19.	DE NEUVILLE, Alphonse Marie, painter; at Paris . .	49
	22.	HUGO, Victor, author and poet; in Paris	83
	23.	JERROLD, Evelyn Douglas, journalist; at Highgate . .	35
	27.	ROGIER, Charles, Belgian statesman, Father of the House of Representatives, in which he sat for 53 years uninterruptedly; at Brussels	85
	28.	DELLE ROVERE, Count Terenzio Mamiani, patriot and poet; at Rome	85

		Age
May	30. Duc de Noailles, senior member of the French Academy; at Paris	83
June	2. Prince Karl Anton of Hohenzollern; at Sigmaringen.	74
	—. Gibbs, Sir T. Brandreth, agriculturist, Hon. Sec. of the Smithfield Club; at W. Kensington	64
	5. Benedict, Sir Julius, composer, conductor, and pianist; at Manchester Square	80
	9. Rouch, Rev. Frederick, Minor Canon of Canterbury 1827–65; at Canterbury	86
	11. Courbet, Admiral, Commander-in-chief of the French fleet in the East; off the Pescadore Islands	58
	12. Hood, Rev. Paxton, Independent Minister and author; in Paris	64
	—. Jenkin, Professor Fleeming, electrician; at	52
	—. Fearon, Ven. Henry, B.D.; for 21 years Archdeacon of Loughborough	82
	—. Malet, Rev. William Wyndham; for 40 years Vicar of Ardeley; at Ardeley	82
	14. Prince Frederick Charles of Prussia; at Potsdam	57
	28. Liddell, Hon. Sir Adolphus Frederic Octavius, K.C.B., for 18 years Permanent Under Secretary of the Home Office; in London	67
	—. Fitzgerald, Sir William, R.S.V., K.C.S.I., Chief Charity Commissioner; at Warwick Square	68
	30. Kitson, James, constructor of one of the first locomotive engines and one of the founders of the Leeds Mechanics' Institute; at Leeds	77
July	6. Moberly, Right Rev. George, D.D., Bishop of Salisbury; at Salisbury	81
	14. Poole, Right Rev. Arthur William, Missionary Bishop of Japan; at	32
	18. Prime, Rev. Samuel Irenœus, editor of *New York Observer*; at Manchester, U.S.A.	72
	23. Grant, General Ulysses S., ex-President of the United States; in New York	63
	28. Montefiore, Sir Moses, Jewish philanthropist; at Ramsgate	100
	29. Milne-Edwards, Dr., naturalist; at Paris	85
	30. Ellacombe, Rev. Henry Thomas, M.A., campanologist and author; at Topsham, Devon	95
Aug.	3. Baron, Rev. John, D.D., F.S.A., author, and inventor of the "Scudamore Organs;" at Upton Scudamore	68
	4. Potts, Robert, M.A., mathematician, editor of "Euclid"; at Cambridge	81
	7. Wigan, Horace, actor; at Sidcup	66
	8. Halifax, Viscount, G.C.B., sometime Secretary for India and Lord Privy Seal; at Hickleton	85
	10. Guy, William Augustus, M.B., F.R.S., physician; at Gordon Square	75
	11. Houghton, Baron, Richard Monckton Milnes, F.R.S., author and poet; at Vichy	75
	14. Griffiths, Rev. John, D.D., late Warden of Wadham College; at Oxford	79
	15. Thoms, William John, F.S.A., originator, and editor up to 1872, of *Notes and Queries*, sometime Deputy Librarian of House of Lords; at St. George's Square, S.W.	81
	—. Worsaae, Jens Jacob Asmussen, archæologist; at Zealand	64

		Age
Aug.	20. ORD, Sir Harry St. George, G.C.M.G., C.B., Maj.-Gen., Colonial Secretary of the Straits Settlements, 1876–81; at Homburg	66
	22. HERON-MAXWELL, Sir John, Scottish philanthropist; suddenly, in a London omnibus	77
	23. KALISCH, Dr., Biblical critic; at Rowsley	77
Sept.	2. BULLEY, Rev. Frederick, D.D., President of Magdalen College, Oxford; at Fairford	75
	4. YOLLAND, William, C.B., F.R.S., Lieut.-Col. R.E., Inspector of Railways; at Atherstone	75
	–. ROWSELL, Francis William, C.B., C.M.G., English Commissioner of Egyptian States Domain Loan; at Grosvenor Hotel, S.W.	47
	5. WHETHAM, Sir Charles, Alderman, Lord Mayor of London 1878-9; at 52, Gordon Square	73
	12. CANON, Hans, painter	56
	17. RAIKES, Charles, C.S.I., late judge at Bengal; at Eastbourne	71
	18. CHAMBERS, Montagu, Q.C., late M.P. for Devonport; at Uxbridge Road	85
	—. SHAIRP, Rev. John Campbell, LL.D., Principal of the United College of SS. Salvator and Leonard, N.B., and Professor of Poetry at Oxford; at Ormsary, N.B.	
	20. CORRIE, Rev. George Elwes, D.D., Master of Jesus College; at Cambridge	92
	27. CRAWFORD, Edmund T., R.S.A., landscape painter; at Edinburgh	79
	28. WALFORD, Cornelius, author and statistician; at Belsize Park Gardens	58
	29. BROOKS, Vincent, lithographer; suddenly in Drury Lane	69
	30. GLOVER, Capt. Sir John Hawley, R.N., G.C.M.G., Governor of Newfoundland, 1876-81; at Harley Street	55
Oct.	1. SHAFTESBURY, Right Hon. the Earl of, K.G., Antony Ashley Cooper; at Folkestone	84
	7. PERRIN, Emile, theatrical director; at Paris	
	–. WILLSHER, Edgar, cricketer, famous bowler; at Lewisham	56
	16. DAVIDSON, Thomas, LL.D., F.R.S., geologist; at West Brighton	68
	28. JONES, Rev. William Henry Rich, M.A., ecclesiologist and antiquarian; at Stratford-on-Avon	68
	30. MERKEL, Gustav, organist and composer; at Dresden	58
Nov.	2. MORBURN, Robert, A.R.A., miniature painter; at Tunbridge Wells	67
	–. MOGFORD, John, landscape coast painter; at Haverstock Hill	63
	10. CARPENTER, William B., M.D., C.B., F.R.S., zoologist, physiologist and microscopist; at Regent's Park Road	72
	12. LOCKE KING, Hon. Peter J., M.P. for East Surrey, 1847-74; at Weybridge	74
	13. RANELAGH, Viscount, one of the chief promoters of the Volunteer movement; at Victoria Street	72
	25. ALPHONSO, KING OF SPAIN; at Madrid	28
	27. GOSSET, Sir Ralph A., late Serjeant-at-Arms in the House of Commons; at Richmond Hill	76
	28. SOMERSET, Duke of, K.G.; at Newton Abbot	80

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BRITISH MUSEUM 1 FE 86

THE GRESHAM LIFE ASSURANCE SOCIETY.

Chief Offices—ST. MILDRED'S HOUSE, POULTRY, LONDON, E.C.

BRANCH OFFICES.

ENGLAND.

BIRMINGHAM, 18, Bennett's Hill.
BRADFORD, Bank Chambers, Bank Street.
BRIGHTON, 4, Pavilion Buildings.
BRISTOL, 1, Broad Quay.
HULL, Trinity House Lane.
LIVERPOOL, Gresham Buildings, 99, Dale Street.
MANCHESTER, 2, Cooper Street.
NEWCASTLE, Percy Buildings, Grainger Street West.
NORWICH, Bank Plain.
SUNDERLAND, 30, Fawcett Street.
STOCKTON-ON-TEES, Bank Chambers.

WALES.

CARDIFF, Gresham House, Roath.

SCOTLAND.

GLASGOW, 63, St. Vincent St.
ABERDEEN, 28, Market Street.
EDINBURGH, 97, George Street.
DUNDEE, 74, Commercial Street.

IRELAND.

DUBLIN, 5, Westmoreland Street.

FUNDS.

Realised Assets (1884), £3,491,376 Life Assurance and Annuity Funds, £3,391,789
Annual Income ... ... £685,369.

The Directors are prepared to receive from Local Boards and Corporations applications for Loans upon Rates.

The Society also grant Loans upon security of Freehold, Copyhold and Leasehold Property, Life Interests and Reversions.

Prospectus, Reports, and Proposal Forms can be obtained on application to the Society's Agents and Branch Offices, or to—

JOSEPH ALLEN,
Secretary.

Clergy Mutual Assurance Society,

1 & 2, THE SANCTUARY, WESTMINSTER, S.W.

Patrons.

His Grace the ARCHBISHOP OF CANTERBURY. His Grace the ARCHBISHOP OF YORK.

President—The Right Hon. and Right Rev. the LORD BISHOP OF LONDON.

Trustees.

His Grace the ARCHBISHOP OF CANTERBURY. The Rt. Rev. the LORD BISHOP OF WINCHESTER.
The Very Rev. the DEAN OF YORK. The ARCHDEACON OF MAIDSTONE.
Chairman—The Very Rev. the DEAN OF WESTMINSTER. *Deputy-Chairman*—ROBERT FEW, Esq

OPEN TO THE CLERGY AND THEIR LAY RELATIVES.

(*For Qualification, see below*).

Attention is particularly requested to the following points respecting this Society, as being of special importance to Clergymen and their Lay relatives desiring to assure their lives:—

1. **SECURITY.**—The security offered by this Society for the due fulfilment of its engagements consists of Funds, amounting to **£3,272,576,** created from Premiums accumulated at compound interest, together with an Annual Income derived from Premiums and interest on these funds of **£354,686.** The average rate of interest on the Society's Investments at the close of the year 1884-5 was **£4 1s. 2d.** per cent. The investments comprise Mortgages of Freehold Estates in England and Wales, of long Leaseholds in the cities of London and Westminster, of Rates under Acts of Parliament, and of Life Interests and Reversions; Railway, Gas, and Water-works Debenture Stocks; and Loans on the Society's Policies within the surrender values.

2. **BONUS.**—This Society, being purely **mutual,** has no **Proprietors,** and consequently no **Proprietors' Fund** upon which to pay interest. **All the Profits are the property of the Assured Members.** The total Profits **realized and divided** since the establishment of the Society amount to **£1,619,812,** of which **£437,347** was distributed at the last Quinquennial Bonus among **7,882** Policies. Of these **1,070** were then, by means of Bonus, not only altogether released from the payment of Annual Premiums, but had, in almost every case, additions made to the sums originally assured.

3. **PREMIUMS.**—The Rates of Premium for which assurances may be effected in this Society are less than those charged by the great majority of Life Assurance Offices. One-fifth of the Annual Premium may remain a charge upon the Policy, to be paid wholly or in part at each Quinquennial Division of Profits. Assurances upon life are granted for any amount not exceeding **£7,500.**

4. **MANAGEMENT.**—This Society **neither employs Agents nor allows Commission** for the introduction of new business. The expenses of management on all accounts were in the past financial year only **£4 4s. 1d.** per cent. of the Total Revenue, and **£6 12s. 6d.** per cent. of the Premium Revenue. So that for **£6 12s. 6d. out of every £100 received for Premiums,—which is not much more than the usual allowance paid by other Offices for Commission alone,—the whole business of this Society is conducted.**

NO LIABILITY INCURRED BY THE ASSURED.

The business of the Society is chiefly with a class of persons in which the average duration of life is allowed to be beyond that ordinarily found in the community at large. The experience of the duration of life among the Members has hitherto been very favourable.

STEWART HELDER, *Actuary.*
MATTHEW HODGSON, *Secretary.*

QUALIFICATION.

The following may make an Assurance upon his or her own Life, and also for his or her own benefit upon the Life of any other person, provided He or She may have an interest in such Life to the amount of the capital sum to be assured:—

1. Any Clergyman of the respective Churches of England and Ireland, or of the Protestant Episcopal Church in Scotland.
2. Any Wife, Widow, Child or Grandchild, or any Father, Mother, Brother, Sister, Uncle, Aunt, Nephew or Niece of any such Clergyman.
3. Any Father, Mother, Brother, Sister, Uncle, Aunt, Nephew or Niece of the Wife or Widow of any such Clergyman.
4. The Wife or Widow of any Son, or the Husband or Widower of any Daughter, of any such Clergyman.
5. Any Director, or other person holding any office in the Society.

Any person not thus qualified may make Assurances upon Life, if the persons upon whose lives such assurances are to be made are themselves qualified.

Applications for Assurances, &c., &c., may be made personally at the Office, 1 and 2, The Sanctuary, Westminster, or by letter addressed to the Secretary.

EAGLE INSURANCE COMPANY,

(Established 1807)

(FOR LIVES ONLY,)

No. 79, PALL MALL, LONDON, S.W.

Directors.

SIR GEORGE RUSSELL, Bart., *Chairman.*

CHARLES BISCHOFF, Esq., *Deputy-Chairman.*

THOMAS ALLEN, Esq.
The Rt. Hon. SIR WM. HART DYKE, Bart., M.P.
The Rt. Hon. SIR JAMES FERGUSSON, Bart., K.C.M.G.
The Hon. THOS. F. FREMANTLE, M.P.
RALPH LUDLOW LOPES, Esq.
HENRY PAULL, Esq.
HENRY ROSE, Esq.
Colonel The Hon. W. P. M. C. TALBOT.

Actuary and Secretary.

GEORGE HUMPHREYS, Esq., M.A., F.I.A.

FINANCIAL POSITION OF THE COMPANY

On the 31st December, 1884.

SUMS ASSURED and BONUS £7,602,497
TOTAL FUNDS (including paid-up Capital of £167,867) **£2,973,945**
Being just 40 per cent. of the Sums Assured and Bonus.
SUBSCRIBED CAPITAL .. £1,500,000
ANNUAL INCOME £347,179
NET NEW PREMIUMS in 1884 £10,876

The Expenses of Management are less than 5 per cent. of the Gross Income.

During the past 37 years the Company has paid in Claims £7,872,396,

And divided Bonuses amongst the Assured, exclusive of those taken in Reduction of Premium, amounting to £1,012,761.

Interim Bonuses are given on Policies of Five Years old and upwards which become Claims between any two Valuations, thereby practically securing to the Assured an Annual Bonus.

Annual Reports, Prospectuses, and Forms, may be had, or will be sent, Post Free, on application at the Office, or to any of the Company's Agents.

THE ECONOMIC
LIFE ASSURANCE SOCIETY,

No. 6, NEW BRIDGE STREET, BLACKFRIARS, LONDON, E.C.

ESTABLISHED 1823.

Directors.

HENRY BARNETT, Esq., *Chairman.*

The Right. Hon. E. PLEYDELL BOUVERIE, *Deputy-Chairman.*

ROBERT CRAWFURD ANTROBUS, Esq.
CHARLES ARTHUR BARCLAY, Esq.
MICHAEL BIDDULPH, Esq., M.P.
EDWARD CHARRINGTON, Esq.
JOHN HARMAN, Esq.
C. H. W. ÀCOURT REPINGTON, Esq.
Sir G. KETTILBY RICKARDS, K.C.B.
ALFRED SARTORIS, Esq.
Sir AUGUSTUS KEPPEL STEPHENSON, K.C.B.
Rt. Hon. LORD SUDELEY.

Actuary.—RICHARD CHARLES FISHER, Esq.

ADVANTAGES OFFERED BY THE SOCIETY:—

The **lowest** rates of Premium on the **Mutual System**, for young and middle-aged lives, with early participation in Profits.

Number of Policies in Force	10,429
Sums Assured, with Bonus Additions	£9,594,261
Security—Accumulated Fund	£3,581,544
Annual Income	£380,095
Total Claims paid, with Bonus Additions	£7,468,000
Total Bonuses declared to 1883 inclusive	£4,153,415

Bonus.—The Society being on the **Mutual** principle, the Assured share the **whole of the Profits.** Policies effected before 31st December of each year receive a full year's Bonus for the year of entry.

QUINQUENNIAL DIVISION OF PROFITS, 1884.

Assets	£3,619,661
Liabilities...	3,050,831
Surplus	£568,830

Prospectuses, Statement of Accounts, and full particulars may be obtained on application to

JOHN RALPH GRIMES, *Secretary.*

EQUITABLE LIFE ASSURANCE SOCIETY.

OPPOSITE THE MANSION HOUSE, LONDON.

Founded A.D. 1762.

THE OLDEST LIFE OFFICE ON THE MUTUAL PRINCIPLE IN THE WORLD.

BONUS TABLE FOR 1886.

TABLE showing the total Amount payable under a Policy for **£1,000** (including the additions), in the event of its becoming a claim after payment of the premium due in the year **1886.**

Date of Policy.	Sum payable including additions. £	s.
From 25th Jan. 1817 to 24th April 1817	3815	0
,, 24th April 1817 to 16th April 1818	3715	0
,, 18th April 1818 to 4th Feb. 1819	3615	0
,, 5th Feb. 1819 to 3rd Jan. 1820	3515	0
,, 7th Jan. 1820 to 22nd Dec. 1820	3415	0
,, 23rd Dec. 1820 to 30th Nov. 1821	3315	0
,, 1st Dec. 1821 to 7th Mar. 1823	3215	0
,, 7th Mar. 1823 to 24th May 1824	3115	0
,, 25th May 1824 to 8th Mar. 1825	3015	0
,, 9th Mar. 1825 to 3rd Nov. 1826	2940	0
,, 7th Nov. 1826 to 15th July 1828	2865	0
,, 21st July 1828 to 1st Mar. 1830	2790	0
,, 3rd Mar. 1830 to 24th Nov. 1831	2715	0
,, 24th Nov. 1831 to 1st Aug. 1833	2640	0
,, 1st Aug. 1833 to 18th June 1835	2565	0
,, 19th June 1835 to 21st July 1837	2490	0
,, 21st July 1837 to 22nd Jan. 1839	2415	0
,, 24th Jan. 1839 to 10th Dec. 1840	2340	0
,, 15th Dec. 1840 to 2nd Nov. 1842	2265	0
,, 12th Nov. 1842 to 18th June 1845	2210	0
,, 19th June 1845 to 2nd Mar. 1847	2155	0
,, 3rd Mar. 1847 to 14th Nov. 1848	2100	0
,, 14th Nov. 1848 to 19th Nov. 1850	2045	0
,, 19th Nov. 1850 to 26th July 1853	1990	0
,, 26th July 1853 to 31st Dec. 1855	1935	0
,, 1st Jan. 1856 to 31st Dec. 1856	1880	0
,, 1st Jan. 1857 to 31st Dec. 1857	1825	0
,, 1st Jan. 1858 to 31st Dec. 1858	1770	0
,, 1st Jan. 1859 to 31st Dec. 1859	1715	0
,, 1st Jan. 1860 to 31st Dec. 1860	1677	10
,, 1st Jan. 1861 to 31st Dec. 1861	1640	0
,, 1st Jan. 1862 to 31st Dec. 1862	1602	10
,, 1st Jan. 1863 to 31st Dec. 1863	1565	0
,, 1st Jan. 1864 to 31st Dec. 1864	1527	10
,, 1st Jan. 1865 to 31st Dec. 1865	1490	0
,, 1st Jan. 1866 to 31st Dec. 1866	1452	10
,, 1st Jan. 1867 to 31st Dec. 1867	1415	0
,, 1st Jan. 1868 to 31st Dec. 1868	1377	10
,, 1st Jan. 1869 to 31st Dec. 1869	1340	0
,, 1st Jan. 1870 to 31st Dec. 1870	1320	0
,, 1st Jan. 1871 to 31st Dec. 1871	1300	0
,, 1st Jan. 1872 to 31st Dec. 1872	1280	0
,, 1st Jan. 1873 to 31st Dec. 1873	1260	0
,, 1st Jan. 1874 to 31st Dec. 1874	1240	0
,, 1st Jan. 1875 to 31st Dec. 1875	1200	0
,, 1st Jan. 1876 to 31st Dec. 1876	1160	0
,, 1st Jan. 1877 to 31st Dec. 1877	1120	0
,, 1st Jan. 1878 to 31st Dec. 1878	1080	0
,, 1st Jan. 1879 to 31st Dec. 1879	1040	0
,, 1st Jan. 1880 to 31st Dec. 1880	1020	0

The Equitable has never allowed Commission.

J. WARE STEPHENSON, *Actuary.*

GUARDIAN
Fire and Life Assurance Company.

Established 1821, *and Empowered by Special Acts of Parliament.*

Subscribed Capital	**£2,000,000**
Paid up Capital	**1,000,000**
Total Funds in hand	**3,900,000**
Total Income, over	**758,000**

Directors.

CHAIRMAN—ALBAN G. H. GIBBS, ESQ.

DEPUTY-CHAIRMAN—BEAUMONT WILLIAM LUBBOCK, ESQ.

ROWLAND NEVITT BENNETT, ESQ.
HENRY BONHAM-CARTER, ESQ.
CHARLES F. DEVAS, ESQ.
JAMES GOODSON, ESQ.
JOHN J. HAMILTON, ESQ.
THOMSON HANKEY, ESQ.
RICHARD M. HARVEY, ESQ.
RIGHT HON. JOHN G. HUBBARD, M.P.
JOHN HUNTER, ESQ.
GEORGE LAKE, ESQ.
RT. HON. G. J. SHAW-LEFEVRE, M.P.
JOHN B. MARTIN, ESQ.
S. HOPE MORLEY, ESQ.
HENRY JOHN NORMAN, ESQ.
DAVID POWELL, ESQ.
AUGUSTUS PREVOST, ESQ.
JOHN G. TALBOT, ESQ., M.P.
HENRY VIGNE, ESQ.

Auditors.— HORACE DEVAS, ESQ. / WILLIAM FICKUS, ESQ. — GRANVILLE LEVESON-GOWER, ESQ. / MORGAN YEATMAN, ESQ.

Physicians.—J. RUSSELL REYNOLDS, ESQ., M.D., F.R.S., 38, Grosvenor Street, W.; W. R. GOWERS, ESQ., M.D., 50, Queen Anne Street, W.

Solicitors.—MESSRS. PARKIN & WOODHOUSE, 5, New Square, Lincoln's Inn.

Surveyors.— JOSEPH JENNINGS, ESQ., Langham Street, Cavendish Square; MESSRS. DRIVERS & Co. (Valuers for Landed Securities), 4, Whitehall.

Head Office:—11, LOMBARD STREET, LONDON, E.C.

Manager of the Fire Department.—F. J. MARSDEN.

Actuary and Secretary.—T. G. C. BROWNE.

Bankers.—MESSRS. MARTIN & Co., 68, Lombard Street.

Law Courts Branch:—21, FLEET STREET.

Branch Manager.—RALPH P. HARDY. | *Bankers.*—MESSRS. CHILD & Co., 1, Fleet St.

LIFE DEPARTMENT.

The Last Quinquennial Valuation was made on the basis of the Institute of Actuaries' (H^M & H^{M5}) Tables of Mortality and 3 per cent. interest, the net premiums only being valued and the whole of the loading reserved. The sum of £175,228 was divided as a bonus among 5,052 participating policies assuring exclusive of existing bonus £4,321,144, the annual premiums payable under which amounted to £132,533 2*s.* 2*d.*

The exceptional Security offered by the paid-up Capital of £1,000,000 has attracted a large amount of non-participating business to the Company, and the profit derived from it during the past five years was more than sufficient to pay the sum of £40,000 which the Proprietors took as their share of the surplus, and which was the sole benefit which they received from the Life business in return for the guarantee afforded by the unusually large paid-up Capital of the Company. The Policy-holders in the "Guardian" have, therefore, the Security of a Proprietary Company with the Profits of a Mutual Society.

The full Bonus Report and Prospectus will be forwarded on Application.

Life Fund (1884) - - £2,217,000 | Life Income - - - £276,000

FIRE DEPARTMENT.

Insurances effected on Property at Home and Abroad at Moderate Rates.

Fire Fund (1884) - - £485,000 | Fire Income - - - £438,000

HAND-IN-HAND

FIRE AND LIFE INSURANCE SOCIETY

26, NEW BRIDGE STREET, BLACKFRIARS, LONDON, E.C.

Instituted in 1696.—*Extended to Life Insurance*, 1836.

DIRECTORS.

The Hon. LIONEL ASHLEY.	ANDREW JOHNSTON, Esq.
T. PALMER CHAPMAN, Esq.	F. LOCKER-LAMPSON, Esq.
JOHN LETTSOM ELLIOT, Esq.	T. FULLER MAITLAND, Esq.
Vice-Admiral Sir LEOPOLD G. HEATH, K.C.B.	ARTHUR SPERLING, Esq.
CHAS. R. GURNEY HOARE, Esq.	Rt. Hon. Lord THURLOW.
	W. ESDAILE WINTER, Esq.

Bankers—Messrs. GOSLINGS & SHARPE, 19, Fleet Street.

Physician—THOMAS K. CHAMBERS, M.D.

Solicitors—Messrs. NICHOLL, MANISTY, & Co., 1, Howard Street, Strand.

AUDITORS.

Messrs. TURQUAND, YOUNGS & Co.

Secretary—BENJAMIN BLENKINSOP, Esq.

Actuary—JAMES TERRY, F.I.A.

The **oldest Insurance Office** in the World.

The **only Mutual Office** in the Kingdom for both **Fire and Life.**

There being **no Shareholders, all Profits** are **divided yearly amongst the Insured.**

BONUS RETURNS.

LIFE—1st Series	75	per Cent. per Annum.
2nd Series (according to the age of the Policy) ...	70 to 75	
3rd Series do. do. ...	50 rising to 60	
4th Series, after 1st Five Years, to commence at .	45	
FIRE—Annual Policies of Two Years' standing, with certain exceptions	25	

No Policy Holder is subject to **any Personal Liability.**

The Directors are **willing to appoint as Agents persons of good position and character.**

VALUATION BALANCE SHEET, 31st DECEMBER, 1884.

ASSETS.

General Accumulated Fund, Fire and Life	£1,668,617
Life Assurance Fund, under Act of 1870	455,948
Present Value of Life Premiums	1,685,014
	£3,809,579

LIABILITIES.

Present Value of Sums Insured and Annuities, LIFE ...	£2,379,083
Sum Reserved for future Abatements on Premiums, LIFE	1,037,218
Sum Reserved for Bonus Returns on unexpired Policies, FIRE	25,787
Premiums in hand on account of unexpired terms of Insurance, FIRE	41,590
Balance of Assets unappropriated	325,901
	£3,809,579

The ACCOUNTS and STATEMENTS as deposited with the Board of Trade, as well as Prospectuses and Forms of Proposal, may be had of any of the Society's Agents, or on application at the Head Office.

BENJAMIN BLENKINSOP, *Secretary.*

THE LONDON ASSURANCE.

Incorporated by Royal Charter, A.D. 1720.

FOR FIRE, LIFE, AND MARINE ASSURANCES.

Head Office—No. 7, ROYAL EXCHANGE, LONDON, E.C.

Branch Offices
- No. 43A, PALL MALL, LONDON, S.W.
- „ 99, ST. VINCENT STREET, GLASGOW.
- „ 14, EAST PARADE, LEEDS.
- „ 28, EXCHANGE STREET EAST, LIVERPOOL.
- „ 16, CROSS STREET, MANCHESTER.

LEWIS ALEXANDER WALLACE, ESQ., *Governor.*
GEORGE WILLIAM CAMPBELL, ESQ., *Sub-Governor.*
DAVID PLENDERLEATH SELLAR, ESQ., *Deputy-Governor.*

DIRECTORS.

CHARS. G. ARBUTHNOT, Esq.
OTTO AUGUST BENECKE, Esq
ROBERT HY. BENSON, Esq.
ROBERT BURN BLYTH, Esq.
WILLIAM T. BRAND, Esq.
EDWARD BUDD, Esq.
GEORGE B DEWHURST, Esq.
HENRY LLOYD GIBBS, Esq.
ROBERT GILLESPIE, Esq.
HOWARD GILLIAT, Esq.
HENRY GOSCHEN, Esq.
EDWIN GOWER, Esq.
A. C. GUTHRIE, Esq.
ROBERT HENDERSON, Esq.
LOUIS HUTH, Esq.
HENRY J. B. KENDALL, Esq.
GREVILLE H. PALMER, Esq.
Capt. R. W. PELLY, R.N.
HOWARD POTTER, Esq.
WILLIAM RENNIE, Esq.
ROBERT RYRIE, Esq.
ALBERT G. SANDEMAN, Esq.
Col. LEOPOLD R. SEYMOUR.
JOHN YOUNG, Esq.

West End Committee.

S. P. LOW, Esq. (Messrs. Grindlay & Co.)
CHARLES S. PARIS, Esq., 22, King Street, St. James's, S.W.
The Hon. FRANCIS PARKER, 3, Temple Gardens, E.C.

Secretary.
JOHN P. LAURENCE, ESQ.

Underwriter.
JOHN STEWART MACKINTOSH, ESQ.

Actuary.
ARTHUR H. BAILEY, ESQ.

Manager of the Fire Department.
JAMES CLUNES, ESQ.

Medical Officers.

EDWARD CLAPTON, M.D., 10A, St. Thomas's Street, Southwark.
JOHN HARLEY, M.D., 39, Brook Street, Grosvenor Square.

The Corporation has granted Fire, Life, and Marine Assurances for more than a Century and a half; during that long period it has endeavoured to introduce into its practice all the real improvements that have from time to time been suggested, and to afford every facility for the transaction of business.

Of the Share Capital the sum of £448,275 has been paid up. The funds in hand exceed £3,300,000.

Claims under Life Policies are payable at once upon proof of death and title being furnished to the satisfaction of the Court of Directors.

Copies of the Accounts pursuant to "The Life Assurance Companies Act, 1870," can be had on application personally or by letter.

North British and Mercantile Insurance Company.

Incorporated by Royal Charter and Special Acts of Parliament.

AUTHORISED CAPITAL, £3,000,000. SUBSCRIBED CAPITAL, £2,500,000.
PAID-UP CAPITAL, £625,000.

Resources of the Company as at 31*st December*, 1884:—

FIRE DEPARTMENT.

	£	s.	d.
The Net Premiums received during the year 1884, after deducting Re-insurances, amounted to	1,114,068	13	0
The Net Losses by Fire during the year were, after deducting Re-insurances	704,357	0	2

This embraces not merely all losses actually ascertained and paid, but a full estimate of all Claims that had arisen prior to 31st December, 1884.

The Fire Funds, after payment of the Dividend and Bonus after-mentioned, and irrespective of the Paid-up Capital, are as follows:—

Reserve	£1,170,000	0	0
Premium Reserve...	371,356	4	4
Balance of Profit and Loss Account...	55,939	5	2
	£1,597,295	9	6

LIFE DEPARTMENT.

	£	s.	d.
937 New Policies were issued during the year, assuring	952,281	0	0
The New Premiums on which amount to the sum of	31,462	6	8
During the year, 313 Deaths, by which 395 Policies emerged, and 17 Endowments matured. The sums which thus became payable, after deducting Re-assurances, amounted, with Bonus additions, to the sum of	304,107	18	2
The Income for the year of the Life Branch from Premiums and Interest amounted to...	495,407	16	10
In the Annuity Branch 133 Bonds were granted, securing immediate Annuities to the amount of £7,653 14*s.* 4*d.* yearly, and Survivorship Annuities to the amount of £855 yearly, for which the Company received the sum of £70,166 17*s.* 3*d.*, by single payment, and £337 16*s.* 8*d.* by annual Premium.			
During the year 39 Annuities have fallen in, relieving the Company of the sum of £3,240 9*s.* 10*d.* yearly.			
The Life Fund now amounts to	3,458,595	18	9
The Annuity Fund now amounts to	592,306	14	9

DIRECTORS IN LONDON.

Chairman, John White Cater, Esq. — *Deputy-Chairman*, Baron Schröder.

Charles Morrison, Esq.
P. du Pré Grenfell, Esq.
George Garden Nicol, Esq.
George Young, Esq.
A. H. Campbell, Esq.
Richard Brandt, Esq.
John Sanderson, Esq.
Quintin Hogg, Esq.
Charles W. Mills, Esq.
Hon. C. N. Lawrence.
Charles A. Cater, Esq.
Alex. D. Kleinwort, Esq.

MANAGER OF FIRE DEPARTMENT.
G. H. Burnett.

MANAGER OF LIFE DEPARTMENT AND ACTUARY—Henry Cockburn.

FOREIGN SUB-MANAGER.—Philip Winsor.

MEDICAL OFFICERS.
A. H. Hassall, M.D.; R. C. Cream, M.D.; Hermann Weber, M.D.

SOLICITOR.—Sir W. R. Drake.

SECRETARY.—F. W. Lance.

LIFE DEPARTMENT.

The principles on which this Company was founded, and on which it continues to act, combine the system of Mutual Assurance with the safety of a large Protecting Capital and Accumulated Funds, and thus afford all the facilities and advantages which can prudently be offered by any Life Assurance Office. Under these principles the business of the Company continues rapidly to increase. *Ninety per Cent.* of the *Whole Profits* is divided among the Assurers on the Participating Scale. The *Profits* are divided every five years. *Policies are Indisputable* after Five Years. *Annuities* of all kinds are granted, and the rates fixed on the most favourable terms.

Prospectuses and every information can be obtained at the CHIEF OFFICES.

London: 61, Threadneedle St., E.C.; West End Office: 8, Waterloo Place, S.W. Edinburgh: 64, Princes St.

PROVIDENT LIFE OFFICE.

FOUNDED 1806.

50, REGENT STREET, LONDON, W., AND 14, CORNHILL, E.C.

EXISTING ASSURANCES exceed..	**£7,000,000**
INVESTED FUNDS	**£2,388,956**
ANNUAL INCOME	**£315,571**
CLAIMS PAID exceed..	**£7,500,000**
BONUSES DECLARED	**£2,629,814**

HALF-CREDIT SYSTEM,

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